# FINTECH INNOVATION

## IN THE WESTERN BALKANS:

## POLICY AND REGULATORY IMPLICATIONS & POTENTIAL INTERVENTIONS


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APRIL 2020

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# ACKNOWLEDGEMENTS


## THE WORLD BANK

The World Bank Group partnered with the University of Cambridge's Centre for Alternative Finance to conduct research into the Fintech ecosystem within six jurisdictions in the Western Balkans in 2019; Albania, Bosnia & Herzegovina, Kosovo, Montenegro, North Macedonia and Serbia. Isfandyar Zaman Khan managed the work from the World Bank and it was guided by Mario Guadamillas (Practice Manager, World Bank).

## THE CAMBRIDGE CENTRE FOR ALTERNATIVE FINANCE

The Cambridge Centre for Alternative Finance (CCAF) is an international and interdisciplinary research centre based at the University of Cambridge Judge Business School. It is dedicated to the study of innovative instruments, channels, and systems emerging outside of traditional finance. This includes, among others, crowdfunding, marketplace lending, alternative credit and investment analytics, alternative payment systems, cryptocurrencies, distributed ledger technology (e.g. blockchain) as well as related regulations and regulatory innovations (e.g. sandboxes & RegTech). The research was conducted by Ana Odorović, Grigory McKain, Kieran Garvey, Emmanuel Schizas, Bryan Zhang, Philip Rowan, and Tania Ziegler.

## REGULATORS, FINTECHS, BANKS AND EXPERT CONTRIBUTORS

The CCAF is very grateful to the contributors who were willing to be interviewed for this study, who are listed in Appendix 1 of this report.

# METHODOLOGY

Technology-enabled financial and regulatory innovation is still in early stages of development in many countries and regions globally and this is also the case in the Western Balkans. As such, the limited empirical data makes a thorough impact assessment challenging.

Beside desk-based market, legal and regulatory research, this study is primarily based on semi-structured interviews with 13 regulatory authorities in the Western Balkans[1], around 80 individuals working in senior positions in the financial sector, as well as other subject matter experts from the development and policy sectors within the six jurisdictions covered in this study. Where possible, the research team conducted multiple interviews to gather data from multiple sources, verify claims, and mitigate sample bias.

Complementary desk-based research was undertaken concerning financial market developments in each of the countries in the Western Balkans although in depth analysis of the industry structure falls outside the scope of this study. The research for this study was conducted primarily between March and June 2019. The tables and data points included refer primarily to information collected during this period, unless stated otherwise. Certain data points with reference to the regulatory remit in the Western Balkans were updated between the research phase and the publication date.

All market data points are at the jursidctional level, other than in Bosnia & Herzegovina, where jurisdiction over the financial sector is at the Entity level, and the data provided in tables is aggregated based on the data on the financial sector of the Republic of Srpska and financial sector of the Federation of BiH.

[1] The Securities Commission in Montenegro did not participate in this study. For this reason, some data points relevant to Montenegro are missing.

# EXECUTIVE SUMMARY

**The financial services industry in many geographies is transforming rapidly, driven by innovative technologies, actors and activities.** Technology-enabled financial services are rapidly growing both through their uptake by banks and financial financial institutions, as well as by the ~18,000[2] non-bank 'fintech' firms operating across an array of verticals and geographies. A recent study by Ernst & Young estimates that 64% of financial service consumers globally have used a fintech provider in 2019, up from 16% in 2015.[3] The transformations offer consumers and MSMEs improved service quality, product choice as well as increased access to finance and lower costs. However, these benefits must be carefully weighed against the new risks posed by digital-only providers, in particular data and cyber risk, and the use of unproven corporate governance structures.

**In the Western Balkans, despite high growth in the use of card and digital payments, there remains unexplored potential for other fintech services due to high mobile and internet penetration and a skilled IT workforce.** The primary providers of fintech services are banks, although there are approximately 67 firms operating in the fintech sector, 35 of which are in Serbia including 19 in the payments industry. The barriers to the regional fintech sector's development include limited access to capital and finance, high cash-use, low accessibility to payment and information systems, and regulatory barriers, among others. Key regional challenges also include the difficulty for firms and regulators to coordinate operations across small and fragmented markets, within the constraints of complex foreign exchange rules.

**There is moderate to high market concentration in the financial sector, which limits the levels of competition and innovation.** Banks in the Western Balkans tend to compete more on margins and interest than on user experience or ease of use; value propositions which often differentiate fintech services. Since banks are predominantly owned and headquartered outside the region, national branches may struggle to develop innovative local solutions, due to their context within their banking group's structure. A number of successful bank-fintech provider partnership schemes exist however. The resultant impact is that certain services, for example payments, remain expensive for consumers and MSMEs, while the eCommerce is underdeveloped; negatively impacting the broader MSME economy.

**Regional regulatory frameworks are not explicitly adapted to the fintech sector.** Regulators take an 'entity' or 'sector' based approach, which can lead to a lack of certainty for firms with novel business models wishing to operate in the region. Since the promotion of competition and innovation is not a formal statutory objective for most, the creation of innovation hubs and sandboxes may not be within the purview of regulators, except in the Republic of North Macedonia and Montenegro. Several overarching regulatory frameworks need to be further strengthened or clarified in relation to fintech: AML/CTF, digital identification methods, consumer protection, data protection, cybersecurity, and open banking. This study analyses the regulatory frameworks for four key fintech sectors, namely; digital payments, equity crowdfunding, P2P and crypto-assets, to determine how these new services fit within existing regulatory forms.

**This report presents some indicative recommendations to regional regulators and policy makers and advocates a need for proactive, preemptive regulatory action.** There may be:

- increasing stakeholder engagement;
- the facilitation of industry data collection;
- improving access to finance for MSMEs and consumers;
- providing regulatory clarification for non-bank financial services firms;
- strengthening and providing more clarity with respect to overarching regulatory frameworks;
- increasing the level of national, regional and international coordination between regulators.

[2] BCG FinTech Control Tower, https://fintechcontroltower.bcg.com
[3] EY, Global FinTech Adoption Index, (2019).

While fintech markets in the Western Balkans are currently relatively small by global standards, the fast pace of technological developments and technology-enabled financial transactions, may see these markets grow significantly in the near future.

The inherently cross-border nature of some of the fintech activities and their uptake by consumers mean that authorities across the Western Balkans should carefully consider the risks to their regulatory purview, and consider appropriate, proactive and 'future-proof' responses at an early stage.

**The study has been designed to cover a number of key areas.** These include providing a broad overview of key fintech market developments, looking at the regional fintech market, outlining important regulatory and policy implications of fintech and; putting forward a set of actionable regulatory and policy interventions, with a regional emphasis that could act to catalyse technology-enabled financial & regulatory innovation.

## REPORT STRUCTURE

This report is structured as follows:

| | |
|---|---|
| Chapter 1 | Helps to define the fintech ecosystem broadly into its constituent categories. |
| Chapter 2 | Analyses the current state of fintech in the Western Balkans region. |
| Chapter 3 | Presents key fintech regulatory considerations and trends in a global context. |
| Chapter 4 | Outlines the financial regulatory authorities across the Western Balkans region with respect to their institutional mandate and obectives and provides an overview of overarching regulatory frameworks with relevance to fintech. |
| Chapter 5 | Highlights some of the regulatory challenges associated with a number of core fintech activities that are likely most relevant to the region. |
| Chapter 6 | Presents a number of recommendations with a particular focus on actionable regional regulatory and policy interventions to stimulate fintech market. |

# CHAPTER 1.

# INTRODUCTION TO FINTECH

# OVERVIEW

**Technological progress has played an integral role in the formation and transformation of the financial sector globally.** Over the past 50 years, a variety of technological innovations have helped introduce new business models and products, as well as ways to conduct financial transactions (Figure 1). Financial innovation is by no means new. What defines the recent era of innovation over the past decade, is the pace of technological progress that has accelerated. This has resulted in the introduction of new business models as well as new actors outside the traditional banking and capital markets systems that are unbundling financial products and services and making processes more efficient to better address the needs of customers. Specifically, four key technological advances are currently driving much of the change in the financial sector around the world:

1. Mobile phones / Internet, and the sharing economy
2. Artificial Intelligence (AI) / Machine Learning (ML) and Big Data analytics
3. Blockchain / Distributed Ledger Technology (DLT)
4. Cloud computing

**These technologies have stimulated the development of technology-enabled financial services; Fintech as it is commonly known.** Fintech also refers to companies that utilise technology to provide financial services. They operate across all areas of the financial services sector. Globally, there are around 18,000 fintechs[4] operating across the payments, lending, banking infrastructure, markets, investments and savings, and insurance sectors.

**While there are a number of drivers underpinning the emergence of fintech around the world, three of these are particularly pertinent and interconnected.**

## Demographic and cultural shifts

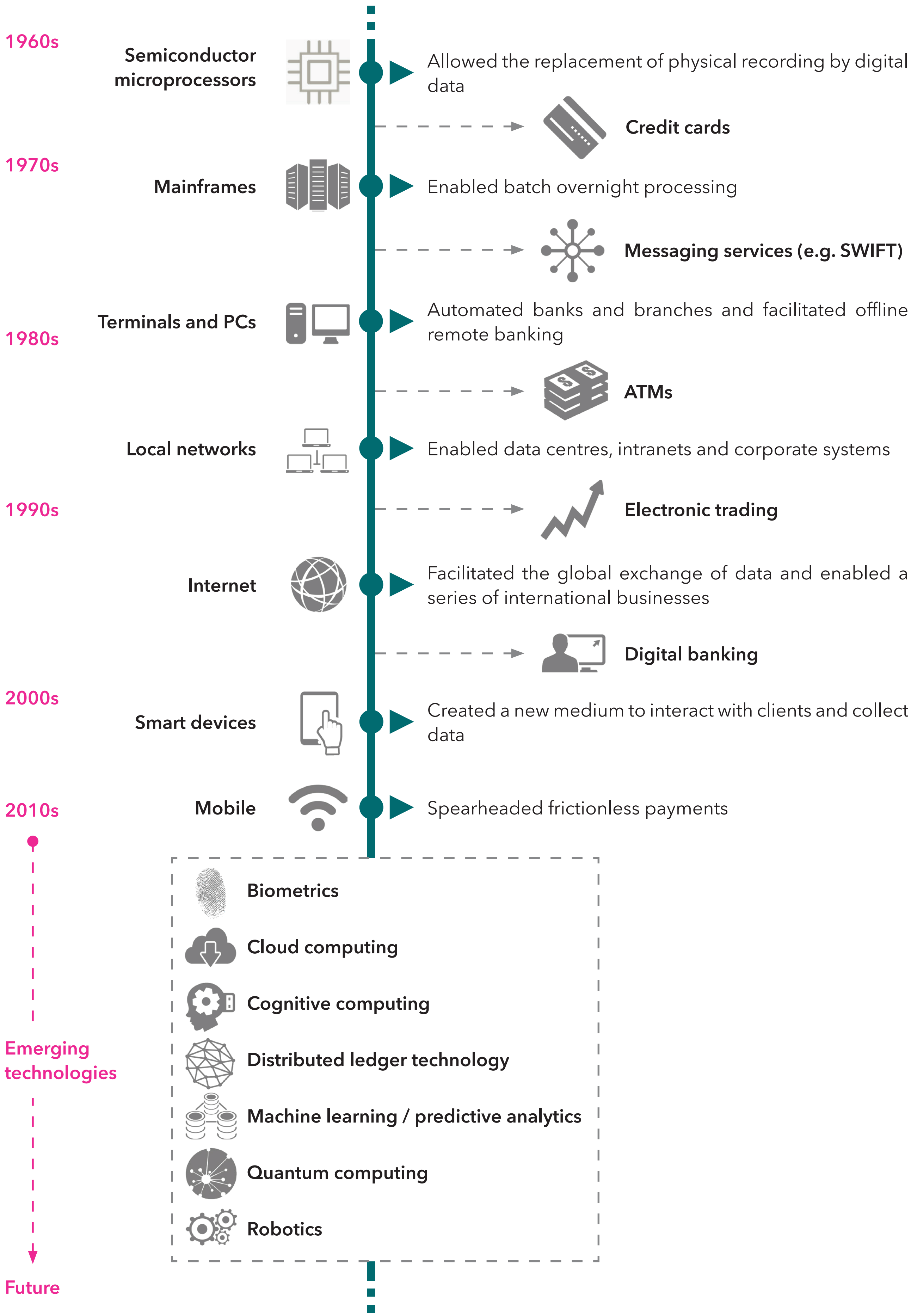
Fifty per cent of the world's population is under the age of 30. This so-called millennial generation is digitally-native meaning they have spent most of their lives growing up with digital technologies as a norm. They bring a new psychology, perspective and expectations concerning banking and financial services; products and services in all sectors are to be mobile-first, delivered using digital channels, and personalised for the end-user. Fintech really embodies this demographic and cultural shift in the domain of financial services.

## Gaps in the traditional financial services sector

Banking and traditional financial service providers have a number of advantages related to their size and scale that have been able to serve a major proportion of the mass market. However, many have also traditionally had high-cost branch networks and legacy IT systems, which have rendered some both sluggish to adapt to the new digital world. These firms have found some consumers segments to be unprofitable, with negative consequences for financial inclusion. Table 1 outlines some of the comparative features of traditional financial services providers and fintechs highlighting a number of benefits and value propositions for fintech firms to end users.

[4] FinTech Control Tower, BCG

**FIGURE 1.** TECHNOLOGICAL PROGRESS IN FINANCIAL SERVICES[5]




[5] Source: The_future of financial infrastructure, World Economic Forum (WEF), 2016, www3.weforum.org/docs/WEF_The_future_of_financial_infrastructure.pdf

**TABLE 1.** COMPARISON OF FINTECH AND TRADITIONAL PROVIDERS' ATTRIBUTES

| Attribute | Traditional Players | Fintechs | User value proposition for fintech |
|---|---|---|---|
| Cost of services | High | Medium to High | • Ease of Use<br>• Faster services<br>• 'Cool'<br>• Good experience<br>• Lower cost of access<br>• More services and features<br>• Value-added services<br>• Availability |
| Turn-around time | With delays | Instant | |
| Customer service | Generalised | Personalised | |
| Personalisation | For premium customers | Offered to all | |
| Processes | Complexity, partially automated | Simple, hassle-free, fully automated | |
| Documentation requirements | High | Medium | |
| Updates on request | Takes time | Instant | |
| Key operational channel | Branch | Mobile | |
| Quality of service | Medium | High | |
| Ease of use | Low to medium | High | |
| Features | Limited | Multiple, personalised, advisory | |
| Other integrations | Limited | Social media, bill payments | |

## Technological advancements

As technology has evolved over the past decade, it has paved the way for the digitisation of transactions, data analytics for a better understanding of the users, personalisation of solutions, and automation of processes. Chapter 1.2 provides further details about the key technological advancements that have had an impact on the financial services sector.

**Fintech is considered to be disruptive in nature for the following reasons:**

- **Disaggregation of the value chain:** Fintechs have sought to disaggregate the financial services value chain. Instead of providing the full range of products and services like a traditional financial institution, such as a bank, fintechs often target one particular product or service and seek to provide it in a better way – either through price or service. This poses significant competition for incumbents and can help to drive innovation within traditional financial service providers.

- **The use of open platforms:** Where financial institutions have traditionally sought to keep their customers within their 'walled garden' of legacy products and services, many fintechs have taken the opposite approach and instead operate using open platforms. Through these open platforms, fintechs seek to build applications and services on top of pre-existing products, thereby capitalising on the existing customer base, harnessing their data to deliver new products.
- **The use of alternative information:** Fintechs use alternative sources of information and data, such as e-commerce and mobile transaction histories, to complement or substitute traditional methods of client identification and credit risk assessment. They are therefore able to offer the prospect of more accurate credit scoring and extend credit to previously unbanked or under-served consumers.
- **Customisation and personalisation:** Fintechs have sought to offer greater customisation and personalisation compared to traditional financial services providers through better data collection and analytics. Personalisation and customisation have included human-centred product design, such as intuitive user interfaces or targeted alerts and notices to consumers.

**Overall, these technological advances have had three main effects on consumers, businesses, and financial services providers:**

1. **Improve the customer experience** – by making it easier and more intuitive to perform financial transactions, and providing more transparency in the process;
2. **Provide better access** – advances in technology allow customers and businesses to perform financial transactions anytime, almost anywhere in the world, and across a range of devices;
3. **Lower operating costs and increased process efficiency** – new tools developed from technological innovations transform the way financial services firms operate by making the processes faster, more efficient, and thereby lowering the costs of operation.

## FINTECH TAXONOMY

**The taxonomy provided in Appendix 2 sets out a broad classification of fintech globally. It highlights the wide range of financial products and services captured under fintech.** The table describes and classifies products in the key areas where fintechs have been disrupting the traditional financial services markets.

# CHAPTER 2. ACCESS TO FINANCE AND FINTECH IN THE WESTERN BALKANS

## CURRENT AND POTENTIAL USE AND DEMAND FOR FINTECH SERVICES

**The Western Balkans region has recently seen growth in the use of fintech services.** Debit card ownership rose by 3% across the region between 2014 - 2017, while the number of people making online payments grew by 7%. However, in 2019 only 8% of the Western Balkan national population used online banking services, compared to 58% in the EU.[6] Furthermore, account ownership currently remains low with a regional average of 61.3% compared to the Euro area's average of 95.3%. This is despite 80.3% of households in the Western Balkans (excluding Albania) having internet access and 98.8% SIM card penetration, of which 63% is 3G or 4G mobile broadband.[7] Table 2 provides some key indicators that can provide some proxies for the existing and potential use and demand for fintech services for the Western Balkans and select comparators. We can see that the level of internet acess is rising, as is the use in online banking, particularly in North Macedonia. People also tend to make more internet purchases and have fewer concerns about the security of online payment systems.

**TABLE 2.** INDICATORS FOR FINTECH DEMAND POTENTIAL[8]

| 2019 / 2018 | Household level of internet access | Use online banking (%) | Make internet purchases | Don't make online purchases; payment security concerns | Individuals with basic or above basic digital skills | Employed ICT specialists (,000) |
|---|---|---|---|---|---|---|
| Albania | : / 2018 | : / 2 | 5 | : | 28 / 21 | : |
| Bosnia and Herzegovina | 72 / 69 | 5 / 5 | 23 / 18 | 5 / : | 24 / : | : |
| Kosovo | 93 / 93 | 5 / 1 | 30 / 22 | 12 / 9 | 28 / 21 | : |
| North Macedonia | 82 / 72 | 15 / 9 | 29 / 25 | 12 / 16 | 32 / 32 | 12 / 12 |
| Serbia | 80 / 73 | 18 / 15 | 34 / 35 | 6 / 9 | 46 / 39 | 68 / 64 |
| Montenegro | 74/ 72 | 3 / 2 | 16 / 12 | 15 / 21 | : / 50 | 5 / 5 |
| Bulgaria | 75 / 72 | 9 / 7 | 22 / 21 | 3 / 6 | 29 / 29 | 96 / 71 |
| Croatia | 86 / 83 | 47 / 41 | 49 / 41 | 14 / 20 | 49 / 50 | 166 / 156 |
| Romania | 84 / 81 | 8 / 7 | 23 / 20 | 3 / 8 | 31 / 29 | 190 / 185 |
| European Union 28 | 90 / 89 | 58 / 54 | 63 / 60 | 6 / 7 | 58 / 57 | 9,000 / 8,500 |

**Note:** Figures denote percentage of population. Figures expressed in change between 2019 / 2018.

[6] Eurostat, 2017.
[7] GSMA, 2019.
[8] Source: Eurostat 2018 - 2019.

# TYPOLOGY OF WESTERN BALKAN FINTECH FIRMS

**According to the CCAF's research, a total of 67 fintech providers were found to have operations in the Western Balkans in June 2019, with the majority operating in the payments sector.**[9] There were 35 in Serbia, 11 in Albania, 7 in North Macedonia, 7 in Bosnia and Herzegovina[10] and 4 in Kosovo and 3 in Montenegro. A number of other fintech providers were identified in the study but not taken into account in this count, since they were either indirect service providers or unincorporated, or provide services to customers outside the region. These providers include for example software outsourcing firms, contractors, software distributors, and cryptocurrency traders. It is estimated that many freelancers also export IT development services abroad, and there are an estimated 10,000 freelancers in Serbia alone[11] who may receive payment in foreign-registered companies to avoid foreign exchange regulations.

**A number of fintech firms applied for licensing by August 2019 to the respondent regulator.** The results in Table 3 suggest that 25 firms recently applied for licensing. Most applications were reported in Bosnia & Herzegovina[12] and Serbia and to a lesser extent in Albania. No firms were reported applying for licenses in North Macedonia, Montenegro, or Kosovo. However, the Central Bank of the Republic of Kosovo did report receiving inquires from interested parties in the sphere of crypto-assets and digital payments.

**CHART 1.** WESTERN BALKAN FINTECH FIRMS BY CATEGORY


[9] See Appendix 3.

[10] Jurisdiction over the financial sector in Bosnia & Herzegovina is at the Entity level, and the data provided in tables is aggregated based on the data on the financial sector of the Republic of Srpska and financial sector of the Federation of BiH.

[11] The Economist, *Return of the geeks: An unexpected tech boom in Serbia*, Feb. 27th 2020

[12] The number of applications refers to the aggregate number in Bosnia & Herzegovina, without being able to distinguish between FBIH and Republika Srpska. Jurisdiction over the financial sector in Bosnia & Herzegovina is at the Entity level, and the data provided in tables is aggregated based on the data on the financial sector of the Republic of Srpska and financial sector of the Federation of BiH.

**TABLE 3.** FINTECH FIRM LICENSING APPLICATIONS RECEIVED BY REGULATORY AUTHORITIES

| | Crypto / ICO | Equity crowdfunding | P2P consumer lending | P2P business lending | Digital payments / e-money | Insurtech |
|---|---|---|---|---|---|---|
| Bank of Albania | : | : | : | : | 3 | : |
| Albanian Financial Supervisory Authority | 0 | 0 | : | : | : | 0 |
| Bank of Kosovo | : | : | : | : | : | : |
| Banking Agency of FBiH | 0 | : | 0 | 0 | 6[13] | : |
| Banking Agency of Republica Srpska | 5 | 0 | 0 | 0 | 0 | 0 |
| Securities Commission of FBiH | 0 | 0 | 0 | 0 | 0 | 0 |
| Securities Commission of Republica Srpska | : | : | : | : | : | : |
| Central Bank of North Macedonia | 0 | 0 | 0 | 0 | 0 | 0 |
| Securities Commission of North Macedonia | 0 | 0 | : | : | : | : |
| Central Bank of Serbia | : | 2 | 1 | : | 8 | : |

**Note:** Non-bank or fintech providers also include telecom companies in the region, including Makedonska Telecom, M-Tel, and Vodafone who have all worked on the development of fintech solutions though uptake has been quite low, with only 2.4% of Albanians having a mobile money account for example.

[13] This figure refers to the number of inquiries regarding licensing received by the regulator.

# CHALLENGES IN THE TRADITIONAL FINANCIAL SECTOR

**Barriers to finance present challenges but also opportunities to regional fintech providers seeking to increase access for both consumers and SMEs.** These barriers include:

1. Low levels of account ownership and use of digital financial services;
2. Banks' risk aversion;
3. High cash-use levels;
4. Reduced levels of trust in financial services;
5. Comparatively low financial literacy rates, as well as;
6. Comparatively high cost of core financial services e.g. payments and credit, and;
7. Comparatively low levels of accessibility to financial and capital markets.

## 1. Low levels of account ownership and use of digital financial services

These include robo-advice tools, alternative credit, and insurtech products that rely on access to users' current account data to provide their services. This can be partially attributed to high procedural barriers to account opening. For example, Findex data from 2017 shows that 13.7% of individuals in Albania are unable to open an account due to the paperwork required, while only 3.5% of Montenegrins faced this issue. In Albania, only 30.6% of rural citizens had an account compared to 39.3% of all citizens, which could be due to the infrastructural difficulties of delivering financial services to rural communities which have only 17 branches for 100,000 inhabitants according to the Austrian National Bank.

**There is a comparatively high number of bank branches across the region compared to the EU, as shown in Table 4, with the exception of Kosovo and Albania.** The CEO of one Kosovan bank interviewed for this study noted that the lower number in Kosovo is a result of the business reality that rural branches are simply not a viable business propositions for banks.

**The cost of opening an account also prohibits many potential customers from doing so, and may in turn prevent users from using fintech services that require a link to a bank account.** This may mean that the penetration of some fintech activities will remain low in the medium term, although there are opportunities to serve this market in the savings sector better through online services.[14] A number of initiatives aim to address low account access via various schemes such as the Eurostandard Bank

**TABLE 4.** WESTERN BALKAN BANK BRANCHES PER CAPITA[15]

| | Number of Branches per 100,000 adults |
|---|---|
| Serbia | 28.2 |
| Montenegro | 43.6 |
| North Macedonia | 25.6 |
| Bosnia and Herzegovina | 28.3 |
| Kosovo | 16.7 |
| Albania | 20.6 |
| WB Average | 27.2 |
| European Union | 22.1 |

[14] E. Beckmann, *Household Savings in Central Eastern and Southeastern Europe : How Do Poorer Households Save?*, Policy Working Paper 8751, The World Bank (2019).

[15] Source: International Monetary Fund, Financial Access Survey, 2017.

and Post Office agreement to provide financial services to rural citizens in the region. In Bosnia and Herzegovina, meanwhile, a fragmented regulatory and administrative regime between Entities means that account opening procedures differ across the country's regions. There have been initatives to launch telecoms based mobile money in the region to leapfrog existing systems, such as the introduction of M-Pesa in Albania, which has not gained traction.

A recent initaitve between the Government of North Macedonia and Mastercard to implement digital identities according to eIDAS standards is the first governmental digital identity in the region, addressing in part the processes of account opening.[16] According to Mastercard's represntatives, North Macedonia has all the relevant infrastructure and regulations in place for the scheme to function, and is investing €3m in the project, although the uptake of the scheme by the private sector is yet to be seen.[17]

**TABLE 5.** BARRIERS TO ACCOUNT OPENING[18]

| | No account because of lack of documents | No account because of insufficient funds |
|---|---|---|
| Albania | 13.70% | 76.50% |
| Bosnia and Herzegovina | 5.50% | 51.20% |
| North Macedonia | 5.70% | 50.40% |
| Serbia | 7.90% | 45.60% |
| Montenegro | 3.50% | 51.10% |
| Kosovo | 11.80% | 50.10% |

## 2. Banks' risk aversion

**Local financial markets are not able to sufficiently finance firms in the Western Balkans.** Small, young, rural and innovative firms can struggle to access funding in a region where bank lending dominates the credit market, and where there were few alternative sources of finance available. Access to finance was identified as a primary barrier to the competitiveness of the region,[20] and the region is ranked globally low access to finance.

The number of commercial bank branches per person is high in the region, with 5.1 more banks per 100,000 people on average than in the European Union.

**TABLE 6.** COMPETITIVENESS RANKING[19]

| | Global rank |
|---|---|
| Serbia | 95 |
| Montenegro | 48 |
| North Macedonia | 114 |
| Albania | 67 |
| Bosnia and Herzegovina | 126 |

**Note:** Figure denotes global rank out of 140 analysed national economies.

[16] Mastercard (2020), Republic of North Macedonia, Mastercard Design National Digital Identity Service to Help Grow Digital Economy, Content Exchange, Skopje, February 8 available at https://mastercardcontentexchange.com/newsroom/press-releases/2020/february/republic-of-north-macedonia-mastercard-design-national-digital-identity-service-to-help-grow-digital-economy/
[17] B. Stojkovski (2020), Digital identities: Why this Balkan country aims to match Estonia's successes, ZDNet, March 12
[18] Source: World Bank Findex, 2017
[19] Source: The World Economic Forum Competitiveness Report 2018
[20] Competitiveness in South East Europe: A Policy Outlook, OECD, 2018, https://www.oecd.org/publications/competitiveness-in-south-east-europe-9789264298576-en.htm

**Banks in the Western Balkans compete more on margins and interest than on user experience or ease of use, which often differentiate fintech services.** The industry profile does not make loan provision a particularly lucrative area for banks. In Albania, for example, the economy consists of micro, small and medium enterprises and lots of businesses do not and are not able to access financing. In Serbia, meanwhile, many micro and smaller agribusinesses are considered more as households than businesses by banks, which can limit their financing potential. For banks, chasing up non-performing loans is an additional barrier to lending.

**The causes of low levels of financing are due to a lack of a lending appetite from banks in the sector.** The most common reasons for loan rejection are outlined in Table 7.

**CHART 2.** NON-PERFORMING LOANS[21]

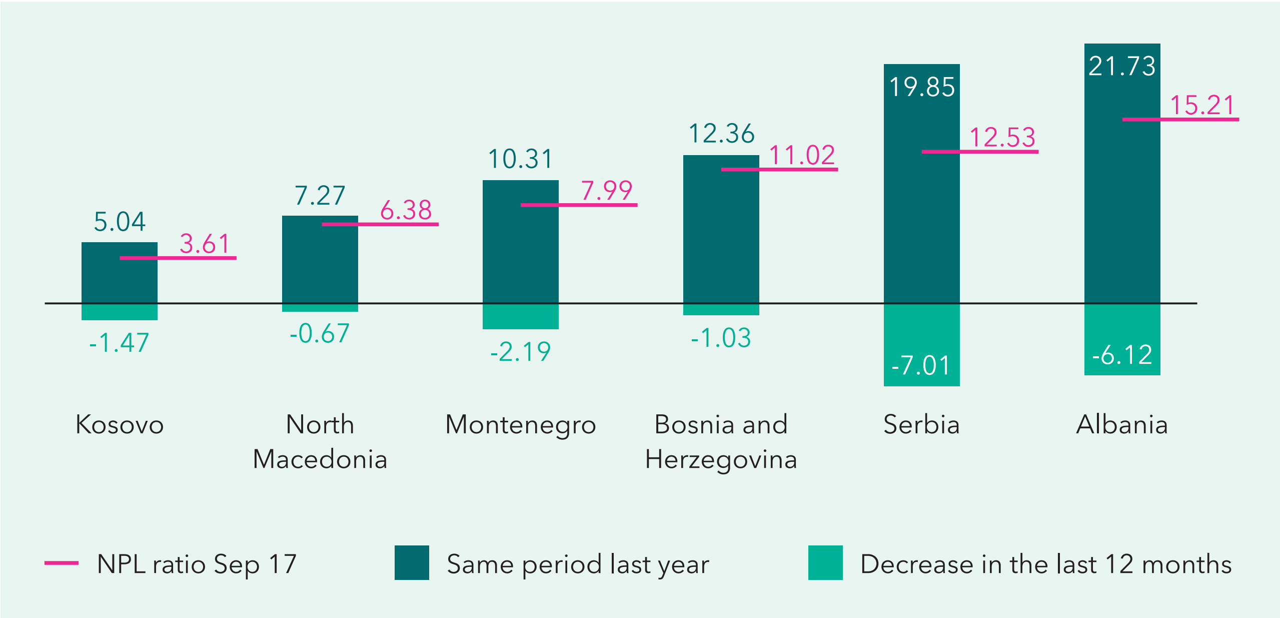



**TABLE 7.** CHARACTERISTICS OF ACTUAL CREDIT CONSTRAINTS (ECB) (PERCENTAGE OF TOTAL CONSTRAINTS)[22]

| | Western Balkans | Albania | Bosnia and Herzegovina | North Macedonia | Kosovo | Montenegro | Serbia |
|---|---|---|---|---|---|---|---|
| Loan was rejected | 6.0 | 2.0 | 13.8 | 4.5 | 4.3 | 6.8 | 4.9 |
| Did not apply for loan because... | | | | | | | |
| ... application procedures too complex | 10.6 | 11.8 | 20.7 | 16.4 | 0.0 | 2.3 | 8.6 |

[21] Source: P. Sanfey, J. Milatovic (2018), The Western Balkans in transition: diagnosing the constraints on the path to a sustainable market economy, EBRD, February, p.36
[22] Source: World Bank, EBRD, BEEPS V, 2012 - 2014

| | Western Balkans | Albania | Bosnia and Herzegovina | North Macedonia | Kosovo | Montenegro | Serbia |
|---|---|---|---|---|---|---|---|
| ... interest rates were not favourable | 73.0 | 80.4 | 55.2 | 58.2 | 95.7 | 84.1 | 74.1 |
| ... collateral requirements were too high | 4.9 | 3.9 | 5.2 | 13.4 | 0.0 | 2.3 | 2.5 |
| ... size of loan and maturity insufficient | 2.6 | 2.0 | 1.7 | 4.5 | 0.0 | 4.5 | 2.5 |
| ... did not think it would be approved | 2.9 | 0.0 | 3.4 | 3.0 | 0.0 | 0.0 | 7.4 |

## 3. High cash-use levels

**Despite growing levels of digital and internet-based financial services, high cash-use rates prevail across the region.** Informal and grey economic sectors can drive high cash use which would require changes to consumer habits and behaviour. Furthermore, since account switching can be complicated and cumbersome, the process of account switching and the move away from reliance on cash can be hindered. Table 8 outlines the proportion of the population in each country with respect to different levels of financial account and digital finance usage. Customers may also be used to using cash as their primary method of payment, which may be due to the cyclical factors of low interest rates, structural factors of cash hoarding, and other factors such as store-of-value motives.[23] A 2018 World Bank study of the payment system in Albania[24] found that 96% of the 127.5 million annual payments were made in cash, while businesses made 66% of their payments in cash.

**Cash usage can also be expected to remain high while internet and mobile services are not fully integrated with other channels.** Older customers are an example, who may not be able to receive government benefits or pensions electronically. Government-to-person payments therefore can also be taken into consideration as an important factor when assessing the level of fintech availability to users in the region. Cash usage is particularly prevalent due to the size of the grey economy, which it further encourages. Fintech solutions may help to address this.

[23] J. Decressin, *Speech: Future of Cash*, IMF, Sarajevo, 15.11.2018.

[24] The Retail Payment Costs and Savigs in Albania, World Bank, June 2018, https://www.bankofalbania.org/rc/doc/WB_RetailPmt_Albania_WEB_Final_12074_13684.pdf

**TABLE 8.** REGIONAL USE OF DIGITAL PAYMENT METHODS[25]

| | Albania | Bosnia and Herzegovina | North Macedonia | Serbia | Montenegro | Kosovo | Euro Area |
|---|---|---|---|---|---|---|---|
| Credit card ownership | 8.0 | 9.7 | 17.4 | 17.6 | 16.7 | 10.4 | 44.8 |
| Debit card ownership | 26.9 | 40.4 | 53.3 | 59.7 | 36.4 | 37.4 | 86.7 |
| Made or received digital payments (past year) | 28.8 | 50.3 | 65.8 | 66.1 | 59.8 | 38.6 | 92.5 |
| Used a debit card or credit card (past year) | 7.7 | 25.8 | 36.8 | 39.4 | 31.0 | 16.5 | 82.0 |

## 4. Reduced levels of trust in financial services

**A lack of trust in financial services has been noted in the region which may inhibit the uptake of fintech services, as well as an increased reliance on informal savings.**[26] In 1994, inflation in Yugoslavia hit 313,000,000% (Cato Institute) and in 1996 and 1997, many people lost their savings through the failure of pyramid schemes and these memories are fresh in people's minds. More recently, the Onecoin and Bitconnect cryptocurrency scams lost regional users 5m EUR and led to increased scrutiny of the cryptocurrency sectors from regulators. The reputation of the e-commerce sector in Montenegro meanwhile has recently suffered through a pending court case in which an e-commerce service managed by multiple banks is alleged to have been set up for the purpose of money laundering of $500m. While it is not possible to speculate about the outcome of this case or the veracity of the allegations, the case is likely to bring into question the role of banks in the e-commerce sector.

**For regulators, ensuring that consumer trust is not placed in inappropriate fintech products was noted as a priority.** For example; online payday lenders, typically provide short term loans with a fast response time through an easy online application processes. Not all are problematic however some firms have given rise to regulatory concerns. Many online lenders that have penetrated the Western Balkans market are based in neighbouring countries, making regulatory coordination challenging. Secondly, regulatory concerns relate to consumer protection from complicated loan terms that disguise fees, misrepresent interest rates and roll over loan terms. This can also contribute to undermining trust in this sector that can spillover onto other areas of fintech and financial services activity; thereby inhibiting uptake.

## 5. Comparatively low financial literacy rates

**Levels of financial literacy are low, with education being a primary concern.** For example, for the Central Bank of Albania, which has taken active steps to educate people against fraudulent financial schemes through TV and newspaper publications, as well as to promote the benefits of using government pension plans or investing in the stock markets. According to Standard Poor's Global Financial 2015 Literacy Survey, low levels of financial literacy can act as a barrier to uptake of fintech and indeed other financial services amongst consumers.

[25] Source: Findex 2017 - 2018
[26] E.Beckmann, Ibid.

## 6. Comparatively high cost of core financial services

**For many individuals, the cost of payments and remittances is high, presenting a very high barrier to access to finance.** In Albania for example, the cost of payments represents 1% of GDP per year according to a World Bank study[27] with payment network and interchange fees representing significant sums. High commissions are taken for transactions made through payment cards, which may be linked to the increasing cost of compliance with AML obligations for firms in the region. Many national and regional banks have a business model that relies to a large extent on charging transactional fees in order to reduce the reliance on the more risky businesses of providing credit or financial intermediation.

**Despite high levels of euroisation, making and receiving payments in foreign currency is problematic.** This brings a number of structural economic risks, particularly for those entities that receive foreign loans in the private sector (72% of loans corporate and household loans are 'euroised' in Serbia, 68% in Albania and 21% in Macedonia according to one study[28]), while also limiting the purview of central banks in the region. Many of the firms that provide foreign exchange services are neither financed properly, marketed appropriately, nor regulated since, for example, making internal payments in foreign currency is illegal in Serbia (Zakon o Deviznom Poslovanju). To receive a payment from abroad may also require the recipient to fill out a questionnaire or sign a form to meet the requirement that such payments must have a purpose and be registered with the Central Bank. This has implications both for individuals who receive expensive and inappropriate products, but may also discourage fintech firms from developing payment services that involve the payment of foreign currencies. Such services are integral for a number of fintech-enabled e-commerce-related activities.

**Remittances in particular are an important source of income to the region, constituting 9.7% of GDP on average across the region according to the World Bank's Findex 2017/2018.** Fintech solutions may enable a reduced use of expensive correspondent payment schemes and reduce such costs. The use of financial technology both by existing firms and tech-focussed non-bank financial service providers has the potential to reduce the cost of financial services through both increased competition, driving efficiency and automation of online services.

## 7. Low levels of competition and accessibility to financial and capital markets

**With the exception of Serbia, there is moderate to high market concentration across different banking activities which limits the level of competition.** Competition has the potential to drive down costs and improve the quality of services for consumers and businesses something that fintech can contribute towards. This environment of relatively low to moderate levels of competition could present an opportunity for fintech firms to increase the number of financial products and services within the market. Such firms may develop innovative services that differentiate themselves from existing product offerings on the basis of user experience, price, or personalisation according to the user's location or individual profile. As mentioned above, banks in the region often compete on margins and interest rather than user experience which a typical fintech value proposition. Appendix 4 outlines the different levels of market concentration within financial services in the region.

[27] Ibid.

[28] T.Boshkov, Z. Temelkov, A.Zezova, *Euroisation in the Western Balkans: The Evidence for Macedonian Economy*, March 2017

## E-COMMERCE

**Financial technologies are a necessary enabler for e-commerce, of which there are few regional examples, with Albanian Gjirafa as well as Serbian Fishingbooker.com being notable exceptions.** Gjirafa's CEO suggests that a number of barriers to the development of e-commerce exist. Firstly, e-commerce associations require a specific license in Bosnia and Herzegovina, Serbia and Montenegro, which is a deterrent to the entry of European firms that are already licensed abroad. Secondly, there are few payment gateway providers which leads to higher costs, and transaction fees for payment processing are expensive. Another barrier to development is that merchants wishing to sell online may find it difficult to do so, if, for example, their activity falls into the category of deposit-taking as it does in Albania. Finally, many customers must pay for purchases in cash on arrival due to a lack of e-signature use, which inhibits a positive user experience. E-Commerce use is moderate across the region which, as an average rate of use, is however higher than the average of the last three countries to join the EU. Appendix 5 outlines the ecommerce revenues across different markets in the Western Balkans for comparison.

**TABLE 9.** ONLINE PURCHASE[29]

| | Paid cash on delivery for internet purchase |
|---|---|
| Albania | .. |
| Bosnia and Herzegovina | 77.7 |
| North Macedonia | 46.0 |
| Serbia | 78.1 |
| Montenegro | 41.6 |
| Kosovo | 74.3 |
| Romania | 69 |
| Croatia | 42 |
| Bulgaria | 64 |

## OPPORTUNITIES FOR FINTECH FIRM DEVELOPMENT

**Ease of setting up a company and doing business.** It is easy and transparent to register a business across the region. For example, in Serbia it costs no more than 30EUR. Access to innovator ecosystems is also relatively easy; in Belgrade and Novy Sad there are 10 coworking offices, as well as science and technology parks that offer lower rates for startups. However, certain regulatory barriers mean that it is not always as easy to do as elsewhere. For example in Serbia, only a physical person can set up a company. The World Bank's Ease of Doing Business data ranking shows that it is quite easy to do business in parts of the region, relative to the new EU member states. However, the challenge for young fintech companies is to scale up beyond the start-up stage. Many may face increased regulatory barriers and other challenges in the face of the difficulties of competing with the banking sector.

**TABLE 10.** EASE OF DOING BUSINESS INDEX[30]

| | Index |
|---|---|
| North Macedonia | 10 |
| Kosovo | 44 |
| Serbia | 48 |
| Montenegro | 50 |
| Albania | 63 |
| Bosnia and Herzegovina | 89 |
| Romania | 52 |
| Croatia | 58 |
| Bulgaria | 59 |

[29] Source: Findex 2017
[30] Source: World Bank 2019

## Access to talent

The region is better known as an outsourcing hub for foreign producers which provides a potential pool of talent for regional fintech firms. The level and quality of IT services is high, and there are a number of promising companies working with banks in the sector. Costs are comparatively low, when compared to neighbouring competitors in Austria, Russia or Hungary. Raiffaisen, for example, considers Kosovo a competence sector for the entirety of the banking group, similar to Russia and Ukraine, although there is currently a high unemployment rate of 60% in the 20 - 30 age group. Regional IT firms such as Asseco (which is used by more than 20 banks in Serbia alone[31]), Visa and Microsoft are key players in the fintech IT solution sector, and there are a number of local international partners such as Kobil, who work with Raiffaisen and Kipru, who work with ProCredit Group on mobile applications and e-banking solutions. Some fintech providers such as FIS Global, Blackrock, and NCR moving development operations to Belgrade.

# CHALLENGES FOR FINTECH DEVELOPMENT

**For independent fintech startups to flourish, a number of systems must be developed.** These include the following areas which are covered in the following section:

1. Access to data
2. Use of digital government services
3. Access to payment systems
4. Access to capital
5. Leasing and factoring

## 1. Access to data

Credit bureaus, company registries, insurance databases and vehicle databases can provide the building blocks for the development of financial services by independent firms, for example to make decisions about customers for insurance or credit products. Across the Western Balkans, credit databases and the method of accessing them constitute a potential barrier to entry for fintech firms.

- **Serbia:** The Central Bank maintains a register of company and financial reports, while an unregulated credit bureau called Belit has a focus on innovation and can be linked to TelCos and payment institutions to enhance data quality.
- **Albania**: Albania meanwhile, there is a separate problem of conflicts, deficiencies or missing titles to land, making it problematic for the use of property as collateral for loans for example, or to be insured.
- **North Macedonia:** Banks tend not to sell or share their credit information, however there is a central credit registry at the National Bank, as well as a privately-owned company – the Macedonian Credit Bureau. While this database is fully digitised, online access is not allowed due to the inability to verify the identity of natural persons and companies digitally.
- **Montenegro:** Operated by the central bank and expanding to utility companies.
- **Bosnia and Herzegovina:** In the Republic of Srpska, the Intermediary Agency for IT and financial services ad Banka Luka (APIF) maintains several registers: the Unified Register of Accounts, the Regiser of Business Entities, the Register of public enterprises, and the Register of financial statements. The Central Bank of BiH maintains the Credit Registry of Business Entities and Natural Persons.

## 2. Use of digital government services

There are a number of other government databases that could benefit from standardisation and digitalisation both at the national and regional level, to enable algorithmic and digital decision making to be made and thereby facilitate the creation of digital products in the financial and insurance sectors. A number of such initiatives are currently taking place. For example a new FBiH government department, Ministry for Scientific and Technological Development, Higher Education and Information Society of the Republic of Srpska, has been created to focus on innovation in technology, including the encouragement of digital transformation in the financial sector, with a view in particular to improving cross border trade which can be slow and bureaucratic. The new department also supports the establishment of a Centre for Digital Transformation.

[31] http://portal.sinteza.singidunum.ac.rs/Media/files/2016/453-459.pdf

**TABLE 11.** USE OF GOVERNMENT DIGITAL SERVICES (% OF POPULATION)[32]

| | Interact with public authorities online | Obtained information from government website |
|---|---|---|
| Albania | 10 | 10 |
| Bosnia and Herzegovina | 15 | 15 |
| Kosovo | 10 | 10 |
| North Macedonia | 19 | 19 |
| Serbia | 27 | 27 |
| Montenegro | 19 | 19 |
| Bulgaria | 20 | 20 |
| Croatia | 50 | 50 |
| Romania | 9 | 7 |
| European Union 28 | 44 | 44 |

A similar initiative is being implemented by the Chamber of Commerce in Serbia, supported by the German Organization for International Cooperation as well as the Austrian Chambers of Commerce. Recent initiatives include encouraging the digitisation of utility bills, and wages which, both in the public and private sectors must be paid for through a bank account.

In February 2020 meanwhile, the government of North Macedonia partnered with Mastercard to develop a new fully digital identity platform, which will provide more advanced electronic identification, authentification, and trust services, based on the European eIDAS standards.[33]

## 3. Access to payment systems

**For many fintech services, access to payment systems is essential whether to develop payment processors or to build financial product offerings on top of existing payment rails.** A number of regional non-bank private payment systems do exist, many of which are offered by exchange offices such as the Serbian VIP Exchange Office. In Albania, merchants who wish to sell goods only need to integrate with a bank that has an e-commerce license, however it can take days to receive a SEPA payment. Developments are taking place, for example with the Albanian Central Bank and Visa payment system, which will enable RTGS and potentially Euro payment settlement. In the meantime, transactions must be settled abroad, for example in Switzerland, which can be expensive; however the Central Bank is intervening in this regard. Most payment systems are maintained by banks, which may provide a barrier to entry for smaller payment firms. In this respect the European Payment Services Directive aimed to improve access to such systems for non-bank financial services providers that do not take part in deposit taking. For Kosovo, a barrier to development is the lack of recognition for the jurisdiction in international law, which means that payment processors have to develop their own payment gateways and are therefore unable to use foreign services such as Stripe, a payment services provider, or Kickstarter or Indiegogo which are crowdfunding platforms, or Facebook.

[32] Source: Eurostat 2019

[33] See: https://mastercardcontentexchange.com/newsroom/press-releases/2020/february/republic-of-north-macedonia-mastercard-design-national-digital-identity-service-to-help-grow-digital-economy/

## 4. Access to professional services

**Access to professional services such as legal, consulting and audit is more scarce** due to the smaller market, which puts existing firms and government and financial sector organisations at somewhat of a disadvantage when it comes to facilitating investment, completing license agreements, or completing digital transformation projects for example.

## 5. Access to capital

**Many high-tech industries, including fintech services, require a high level of capital, time and investment for the services to be developed.** A few Western Balkans have managed to go through the process of raising venture capital, with Gjirafa, an e-commerce platform, a successful example. However such funds normally operate in other European countries to where some firms migrate. Governments in the area operate various investment and development funds, however the collateral and guarantee requirements may be too stringent for many entrepreneurs. A number of regional funds exist to support innovative companies, notably:

- The EBRD which has financed €1.1bn in the Western Balkans Facility in 2018, most recently with a $15m funds for small businesses.
- The World Bank maintains an innovation fund together with the European Commission and the Serbian Government with one early stage fund of up to 80kEUR and one for later stage firms of up to 300kEUR.
- Some regional firms are eligible to apply to the European Union's Horizon 20/20 fund and the EU Innovation Facility.
- The Montenegrin government invests in smaller companies for finance through the EIB, IEF and other organisations who lend to the market through banking groups feel that this may be distorting the market.
- Crowdfunding may also provide an opportunity for local firms to make investments that are particularly relevant within the knowledge area or community. Serbian firms have raised around €650k dollars through the Crowdcube platform.

**For equity investment to be an attractive investment proposition for potential investors, the ability to sell the shares on primary and secondary stock markets would be desirable.** There is innovation taking place here, notably through Founderbeam, an Estonian fintech firm that operates in North Macedonia and Serbia and enables individuals and companies to trade and access financial information on secondary markets through the same platform.

The development of national stock exchanges has been modest in comparision to European counterparts. Initial Public Offerings (IPO) are very rare across the region and government bonds are the predominent securities being traded. In Serbia, the first IPO was conducted in 2018. Listed stocks are mainly the result of wide-scale privatisations during the transition period.

The Albanian Securities Exchange hasn't listed any stocks yet - only state securities, despite a supportive regulatory framework in place. Similarly, corporate bonds are reserved for private placements with limits also placed on the number of individual investors.

Meanwhile in Montenegro, the stock market is well capitalised but volumes are low, and government bonds and equity are the main assets. Further regulatory barriers relate to selling shares privately with a requirement, for example, to make a public offering of shares before they are sold privately. A demand issue also exists across the region, since many small and medium sized firms are reluctant to give ownership of their businesses to investors. Nevertheless, stock exchanges perceive fintech as an opportunity for growth and are considering partnerships with crowdfunding platforms and crypto-asset firms.

# FINTECH STRATEGY OF BANKS

**Foreign ownership of banks can lead to risk aversion with respect to activities in the Western Balkans, and a lack of incentive to develop the fintech sector.** This can be in part be attributed to banks in smaller Western Balkan countries constituting a small part of the balance sheet of banking groups, and therefore not attracting

**TABLE 12.** OWNERSHIP OF BANKING ASSETS (PER CENT)[34]

| | Albania | Bosnia and Herzegovina | Kosovo | North Macedonia | Montenegro | Serbia |
|---|---|---|---|---|---|---|
| Other | 3 | 6 | : | 4 | 23 | 15 |
| Russia | : | 8 | : | : | : | : |
| Germany | 3 | 2 | 30 | 5 | | 2 |
| France | 7 | : | : | 8 | 12 | 10 |
| Turkey | 23 | 2 | 14 | 6 | : | : |
| Greece | 17 | : | : | 23 | : | 13 |
| Slovenia | : | 9 | 17 | 16 | 16 | 2 |
| Italy | 13 | 28 | : | : | 9 | 23 |
| Austria | 20 | 29 | 28 | 4 | 20 | 14 |
| Domestic | 14 | 16 | 11 | 34 | 19 | 22 |

substantial investment. However, foreign ownership can also bring innovations from other jurisdictions to be implemented in the region.[35]

**The process of innovating for foreign-owned banks may be more complicated than for local banks.** Priorities tend to be set at a parent company level under which subsidiaries are coordinated. A similar assessment can be made for telecommunication groups which are predominantly owned by foreign groups. The Western Balkans region comprises a pool of highly skilled technical staff making the region a prime location for outsourcing of technical services. This could enable banks to develop technology solutions within the region but this is dependent on strategic decision making which may not take place within the region given foreign ownership.

## Innovative technology adoption

Banks noted that adopting new technologies such as in AI analytics and the automation of paper-based processes is a priority area to reduce expenditure by increasing efficiency. Examples of initiatives include the development of fully-automated loan products in Kosovo and other countries, to improve their existing mobile and online offering and reduce the dependence on high-street branches. It is often medium sized banks that aim to adopt these technologies in order to improve their competitive advantage against larger firms, however pressure to adopt innovative technical solutions may also come from regional banking groups. Slovenian NLB and Austrian OTP are growing quickly through acquisitions, and they are heavily technology focussed. Addiko are another example of a network of banks, in this case part-acquired by the EBRD through a US fund, which have a strong focus on simplifying technologies. Another executive noted that some employees of large regional banks were assessing the opportunity to set up an independent digital-only bank, since the market potential was sufficiently great.

## Bank-led fintech products and approach in the Western Balkans

The product offering at many banks has the potential to be digitised or be provided more competitively by or be outsourced to fintech firms.

[34] Source: P. Sanfey, J. Milatovic (2018), The Western Balkans in transition: diagnosing the constraints on the path to a sustainable market economy, EBRD, February, p.36

[35] Banking Challenges in the Western Balkans: Prospects and Challenges, IMF, November 2017, https://www.elibrary.imf.org/view/IMF086/24601-9781484319611/24601-9781484319611/ch03.xml?redirect=true

## BOX 1. CASE EXAMPLE

One bank in Kosovo has recently outsourced 90% of its IT work, a project that has been successful in a number of ways. Today, only the Quality Assurance and first-level support teams remains internal, with the rest outsourced to specialised providers. The Chief Innovation Officer (CIO) at the bank noted that it is relatively easy to outsource within the Western Balkans region. An international outsourcing market however means that regional firms compete with low-cost development centres in Eastern Europe and India. The CIO stated however that the freedom allocated to his office in this regard may be a characteristic of being an independent national bank - such projects may not be faesible for subsidiaries of regional or international banking groups.

### Process streamlining

In a number of branches in order to obtain a loan, customers have to go numerous times to complete documents and submit paperwork. For example, in BiH, one bank noted that they had already developed a fully automated online loan product which they will be able to release as soon as the regulations permit e-signature for signing, and expect their competitors to also do so. Similarly in Serbia, for example, it is not possible to agree to a credit agreement with an online signature. Customer authentication process are typically difficult to implement as a result of stringent regulatory requirements, with one bank in Kosovo commenting that for the same process in Kosovo that the Kosovan subsidiary employs 50 people for, the bank's Russian subsidiary has only seven people.

**One upcoming innovation to enable a faster process are electronic signatures,** which though in Albania is one of the most advanced in the region, there have been difficulties in implementing in practice. The product offering is also relatively limited for larger firms too, and this is challenging to address given the relative difficulty to obtain equity investment or project financing for product development.

### Authentication

Raiffeisen and Banku Ekonomike also note the development of customer authentication through video conferencing software through which users can identify themselves by taking a selfie or video and uploading a passport document, which regulators in Kosovo are potentially supportive of.

### Regional differences and the need for collaboration

The chairman of one regional banking association noted that fintech is often discussed at their meetings, as well as services such as M-Pesa, or a piloted scheme to transfer money online through Viber. The ability to roll out some of these services would depend on a currently lukewarm appetite for collaboration with telecom companies. The compatibility of fintech enabled services may be prevented by regional differences. NLB group for example, offers its most developed systems in the EU but a different service in the Western Balkans where accounting and reporting standards differ as well as the service offering that the bank is able to provide, since the group is not licensed to provide insurance and consultancy services in all regions.

### Banks' partnerships with fintechs

Some banks, such as Société Généale, push for partnership with fintechs to develop solutions. Pausal is one such successful partnership in Serbia, which enables start-up entrepreneurs to manage their administrative and tax and invoicing work through an online platform. Raiffeisen meanwhile has run an accelerator programme in the Western Balkans for the past four years, and in 2019, received around 30 entrants from Kosovo and Albania alone, granting the winner access to the bank's international accelerator lab. For the CEO of one Albanian fintech payment processor interviewed meanwhile, working with banks in the region is a challenge. One bank requires a trilateral agreement with the processor and each new retail client that is signed up by the processor. Another Albanian payment processing firm's CEO also notes the difficulty of integrating with banks, who see them as competitors and place high costs on the ability to grant access to the payment network.

# CHAPTER 3.
# REGULATORY APPROACHES TO FINTECH GLOBALLY

# FINTECH AND CONVENTIONAL REGULATORY GOALS

**Innovation in financial markets has continuously imposed the need to revise regulatory frameworks to target novel products, delivery channels, intermediaries and new competitors for various segments of the financial services industry.** Fintech is by no means an exception. By carefully selecting proportionate regulatory tools can help to mitigate potential market failures while minimizing the costs of unintended consequences of regulation ('regulatory failure'). Technology-enabled financial innovation in financial markets can attenuate some old and raise some new regulatory concerns. Appendix 6 provides examples how conventional regulatory goals interact with technology-enabled financial innovation.

# REGULATORY CHALLENGES AND APPROACHES TO FINTECH

**Regulators worldwide struggle to find an optimal balance between rules which provide adequate safeguards and promotion of growth and innovation in the sector.** This fine balance is affected by a number of factors. One of the challenges regulators face is that that regulatory goals can be in conflict in relation to fintech activities. Some examples are provided below:

- A large number of small fintech providers is likely to increase competition in various parts of the banking value chain, but fragmentation of banking service can also lead to a greater operational risk and could ultimately even undermine the profitability and viability of traditional banks.
- Cloud computing promises to increase the efficiency of the banking system but also increases the risk of systematic risk in the case of cyberattacks, if a few big financial institutions outsource the service to the same providers.
- Allowing e-KYC methods has a potential to make onboarding procedures more efficient and thus expand the outreach of financial services, but also poses the risk of data protection.
- Algorithm based-methods of credit scoring, which rely on new sources of data, are likely to decrease the cost of capital but also raise privacy, explainability and discrimination concerns.
- Increased disclosure requirements in case of crowdfunding issuers reduces information asymmetry but it is also likely to reduce the participation rate of fundraising firms.
- Crypto-currencies promise to reduce the costs of cross-border payments but at the same time raise significant ML/TF risk.

**Another challenge lies in a need to abandon a conventional 'entity-based approach' to financial regulation.** Such an approach entails that regulation is tailored to predefined list of regulated institutions and their products. The essential problem with this approach is that different entities carrying out similar types of activities, which pose similar risk to the financial system, may not be subject to the same licensing and conduct requirements, and consumer protection rules. Often, new entities carrying out regulated activities may entirely escape regulatory oversight. In contrast, fintech requires a shift to **'activity-based approach'**, which assumes that all entities providing similar services, independently of the technology they employ, shall fall under the same set of rules. This has become increasingly important in the light of recent trends of telecoms and technology companies (so-called 'Tech-fins') leveraging their market power in retail markets to provide financial services. Thus, 'activity-based approach' is expected to be more technology neutral.

**Given the number of issues to address in relation to fintech, regulators world-wide have embraced different approaches to innovation in finance, which are briefly summarised in the following paragraphs.**

## Baseline scenario: no regulation

**This approach can also be described as 'wait-and-see'.** It follows from the traditional view that certain phenomena should be regulated only when they become sufficiently wide-spread or when they pose significant risk to the financial system. Example of such an approach are regulators who do not view crowdfunding platforms as investment brokerage firms, or do not categorise fundraising through Initial Coin Offerings in the same category as Initial Public Offerings. In some instances, a 'wait-and-see-approach' can prevent an industry from emerging. A typical example is a legislation which provides that only banks are allowed to perform certain services, for which fintech firms have created alternatives. For instance, laws may prescribe that only banks are allowed to extend loans, which might stifle P2P lending, or that only banks may conduct payment services, which could restrain a number of innovative solutions in the digital payments ecosystem. Under the baseline scenario which does allow alternative finance solution to grow, a 'regulatory failure' can involve a lack of necessary safeguards for investors and the absence of regulatory oversight over AML/CFT compliance.

**There are instances in which the lack of oversight from regulators can be supplemented by industry self-regulation.** In small, yet growing markets, industry members sometimes have incentives to create their own set of rules to increase trust and protect the reputation of the industry. A successful example of such an initiative is that of Finance Estonia, which created a self-regulatory regime for crowdfunding. Estonia has experienced the highest crowdfunding volumes per capita in Europe.[36]

## Extending regulations conceived for traditional financial services

**Another widespread practice among regulators worldwide is to stretch the interpretation of existing regulations, developed for conventional financial models, to account for risks emerging from new models. This approach can be described as 'stretch-to-fit'.** The rationale behind it is regulators' concern that some of the important goals of financial regulation will not be achieved in relation to new entrants in finance. For instance, in relation to crypto-assets, regulators in different jurisdictions expressed their concern about instances in which DLT network is used for financing crime or terrorism. The borderless network of nodes allows for fast and reliable transactions, flows of which are difficult to keep track of, from the regulators' perspective. As a result, regulators reinterpret existing securities regulation to threat crypto-asset exchanges as secondary financial markets, and custodians of crypto wallets as custodians in the sense of conventional finance. Similarly, in some jurisdictions crowdfunding intermediaries are considered as investment firms, and as such have to comply with all the necessary investor protection, conduct of business, governance and other rules. While the 'stretch-to-fit-approach' is able to overcome some limitations of the baseline scenario, in which new market participants are simply not recognized by regulators, a number of issues emerge.

**Firstly, as fintechs are often small firms unable to bear the burden of high compliance costs, they often conceive their business models to circumvent existing regulations.** A good example is the investment-based crowdfunding industry in Germany, which used to rely on subordinated loans and profit-participating loans as a substitute for equity, in order to escape the regulatory treatment of 'transferable securities', triggering prospectus requirements. Secondly, some intermediaries do not have an equivalent in traditional finance, for instance miners in case of crypto-assets. As a result, stretching the interpretation of existing regulations may simply not work and the risks stemming out of these models remain unaddressed. Finally, even when 'stretch-to-fit' approach is applicable, a number of new risks inherent in fintech is likely to remain unaddressed. These risks are most likely embedded in digital channels for providing the service. They are most pressing in relation to digital payments, when several agents are involved in the payment value chain. As discussed before, almost all of fintech models raise concerns in relation to data privacy and cybersecurity issues. Existing regulatory frameworks in these areas are often not developed or simply specific enough to ensure cybersecurity resilience of new entrants, or to ensure that information is securely stored with the financial intermediary.

## 'Test and learn' approach

**Innovation, rapid learning and technology-based solution are no longer exclusive features of market participants.** Regulators in different jurisdictions are increasingly embracing new methodologies of regulating and supervising fintech firms which also assume a 'steep learning curve'. Up to date, there are three innovative regulatory initiatives which can fit into the **'test-and-learn approach'** to financial regulation and supervision.[37]

[36] Shifting Paradigms: The 4th European Alternative Finance Benchmarking Report, CCAF, 2019, https://www.jbs.cam.ac.uk/faculty-research/centres/alternative-finance/publications/shifting-paradigms/#.XcUkL0VKgdU

[37] For a more comprehensive overview of regulatory innovation initiatives see: Early lessons on Regulatory Innovations to Enable Inclusive FinTech, CCAF, 2018, https://www.jbs.cam.ac.uk/faculty-research/centres/alternative-finance/publications/early-lessons-on-regulatory-innovation-to-enable-inclusive-fintech/#.XcUk0kVKgdU

## Innovation Offices

The first goal of innovation offices is to enable greater engagement between regulators and industry members. The idea is to improve understanding of technology solutions applied to financial services through a close cooperation with existing and potential market entrants. In addition to better understanding of specific fintech models, innovation offices are a good channel through which a regulator is able to collect data on different fintech models. This should result in regulators being better able to design appropriated regulatory responses and determine priorities in terms of future regulatory reforms. This regulatory initiative turned out to be very useful for industry members as well. Innovation offices serve as a first-point-of-contact with the regulator, in case when unclear regulatory framework raises doubts as to whether certain fintech activity is permitted and what are the applicable laws and regulations.

**An important feature of successful Innovation offices is that they gather staff from different departments to exchange knowledge and to identify which regulatory issues are pertinent to a specific fintech solution.** This is in line with findings that internal organization of regulatory bodies is often conceived to reflect and align with traditional financial institutions and structures. Ideally, successful innovation offices gather persons from different regulatory bodies to allow for inter-agency coordination. This is particularly important as many fintech solutions fall under the remit of two or three regulators. However, technical capacities, in addition to human capital, seem to be equally important for the success of Innovation offices.

## Regulatory Sandboxes

The second regulatory initiative requires a different approach to a regulatory process. In essence, regulatory sandboxes mean that regulators allow certain fintech solutions to emerge under lighter regulatory burden prior to formal licensing, for participants to gain market feedback and regulators to be better able to assess risks. Regulatory sandboxes usually imply that firms wanting to test their products have to apply for a 'sandbox test'. A successful example of this regulatory initiative in Europe is UK's FCA, which uses sandboxes to test the viability of certain financial products with live customers prior to licensing or conceiving a tailored regulatory response.[38] In addition to sand-boxes which serve for product-testing, there are also policy-testing and multi-jurisdictional sandboxes. Policy texting sandbox is used by regulators to assess whether certain regulatory rules are producing satisfactory market outcomes, by relying on specific evaluating techniques. Evaluation results, in particular identified flaws and inconsistencies of existing regulations are then used to influence future regulatory solutions. Multi-jurisdictional sandboxes are a fairly new concept conceived to promote the emergence of cross-border fintech solutions and to contribute to a greater harmonization of laws and regulations in certain regions. The main rationale behind it is to allow fintech business to scale across-multiple jurisdictions, which is often the most important consideration of fintech businesses in small and developing markets.

## SupTech

Unlike prior initiatives, which are serve regulatory purposes, SupTech solutions represent a supervisory tool. The basic idea is that as fintech business models become increasingly sophisticated and data intensive, there is an increasing need that regulators embrace technology-based monitoring and supervision. The core part of such an approach is to form and maintain comprehensive databases on various segments of financial markets. In addition, data-bases need to be put in machine readable forms to allow for a faster and more reliable tools of supervision. However, SupTech solutions are very resource intensive and as such still often reserved for developed economies.

[38] Other examples of operational Sandboxes in Europe include: Russia, Lithuania, Poland and Switzerland.

## Bespoke regulatory framework

Such a framework implies conceiving and adopting a set of regulatory rules which are tailored to the needs, capacities, and risks of a particular fintech sector or business model. While at first, a bespoke regulatory regime seems like a straightforward solution to newly emerging businesses which do not fit well into existing regulatory framework, it not without challenges of its own. An obvious challenge is a risk of a regulatory failure if a bespoke regime is adopted too early. Policy makers are in danger of not having enough information about the variety of products, business models, as well as interconnectedness with traditional financial sector to provide an adequate regulatory response. Secondly, fintech business models are constantly evolving, which can result in regulatory circumvention. Finally, there is a risk of overregulating the sector, in which newly emerging business cannot bear the cost burden of compliance. An example of the sector which clearly depictures the challenges of bespoke regimes is crowdfunding in Europe. Several regulatory in Europe adopted fairly different bespoke regimes, which have led to a significant fragmentation of European crowdfunding market. This is the reason why harmonization efforts at the EU level are not finalized up to date.[39]

[39] See: Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on European Crowdfunding Service Providers (ECSP) for Business, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52018PC0113

# CHAPTER 4.

# REGULATORY LANDSCAPE WITH RELEVANCE TO FINTECH IN THE WESTERN BALKANS

This chapter outlines the most relevant regulatory authorities in the Western Balkans, as well as the respective remits and mandate which define the regulatory perimeter. This in turn determines the regulatory treatment of firms and activities.

Fintech-specific cooperation between regulators as well as fintech-related policy and regulatory initiatives are then analysed. The chapter also provides an overview of overarching regulatory frameworks with relevance to fintech and recommendations are provided to facilitate the development of fintech ecosystem.

# REGULATORY ARCHITECTURE

## Competent authorities, sectors and mandate

**In each of the countries in the Western Balkans, a number of distinct regulators oversee a specific set of financial institutions and financial markets.** Although there are some differences between countries in the region, there are usually three major areas of competence under which regulators might approach the fintech sector:

1. Banking, payments and other credit
2. Capital markets and securities trading
3. AML/CTF supervision.

In some instances, the enforcement of AML/CTF is also conferred to the sector-specific regulator, the central bank or the securities commission, for service providers under their oversight. In relation to these issues, the central bank and the securities commission cooperate with Financial Intelligence Units, which are tasked with collating financial crime related intelligence and coordinating the regulatory response to emerging risks.

**Regulation can take either a 'sector-based' approach, or an 'activity-based' approach.** In the former, the law defines a type of firm, with a particular legal form and business model, as the object of regulation and treats different types of regulatory licenses and permissions as largely exclusive of each other. In the latter, similar activities or functions are subject to the same rules regardless of the type of firm that undertakes them, and require regulatory permissions specific to themselves, which may complement other permissions.

**Of these two, the 'sector-based' or 'entity-based' approach is more prominent in the Western Balkans, and thus regulation is aligned to traditional financial intermediaries such as banking, credit institutions and investment firms.** Fintech firms that provide financial products and services using new channels might not fall under the remit of the same sectoral regulator. As a consequence, some can potentially escape regulatory oversight, use regulatory arbitrage, or operate under less stringent rules. Left unattended, this might result in an effectively unregulated environment which neither provides adequate systemic and consumer protections nor provides firms with certainty. A sector-based approach can give rise to a lack of clarity if a fintech activity extends over two or more sectors. An example are crypto assets, which raise payments and securities-related concerns, and have a very different risk profile when viewed from each of the two perspectives. In addition to financial regulators, some non-financial institutions are likely to exercise regulatory powers over the fintech sector. Data protection, is an example of a key fintech-related concern which has implications for financial consumer protection. In all Western Balkans countries, the competent authority for supervising data protection is an independent data protection agency. Similarly, in a number of countries in the region, there is a separate independent agency for electronic communications, which protects the interests of electronic communication users.

**A comprehensive overview of competent authorities with their respective sectors, mandates and statutory objectives are presented in Appendix 7.**

## Domestic and regional coordination mechanisms

**Given the number of potential authorities with regulatory and supervisory powers over fintech providers, regulators in the Western Balkans were asked to describe their domestic coordination mechanisms and cooperation initiatives.** A number of recently established and forthcoming regulatory cooperation initiatives have a fintech focus. For instance, in Albania, a multi-institutional working group prepared the forthcoming Law on Financial Market based on Distributed Ledger Technology (DLT), which is submitted to approval by the Parliament. In Serbia, a Working Group at the Ministry of Finance will soon be established to draft a fintech-related strategy with a focus on capital markets. These initiatives suggest that regulators in the Western Balkans are aware of the potential of digital financial services and the need to provide more clarity over the allocation of competencies or the regulatory supervision of specific fintech models. However, given the nascent stage of new coordination efforts, it is too early to assess their effectiveness.

**Regional regulators benefit from a number of bilateral and multilateral cooperation mechanisms through which they can share knoweldge and coordinate regulatory efforts.** Based on this study's survey results, one can conclude that regulators either cooperate through international organisations such as the EBA and IOSCO, or through bilateral memoranda with non-Western Balkans entities. Despite some examples of bilateral fintech-related cooperation, it seems that there is room for a fintech-specific regional cooperation platform for coordinating fintech-related regulatory initatives. This is in line with some of the most frequent remarks from industry paritcipants who consider small national markets, fragmented regulatory frameworks, and an inability to passport licenses to other countries in the region as one of the biggest hurdles to growth of the fintech sector. Further coordination would have the additional benefit of potentially enabling fintechs to offer their services outside of their home markets.

**Appendix 8 summarises some of the regional and international examples of cooperation from amongst regulators in the Western Balkans.**

## Objectives: promoting competition and innovation

**The promotion of competition, efficiency and innovation has become a statutory objective for many regulators in Europe.** This has led to growing number of regulators embracing a 'test-and-learn' approach to regulation, such as introducing Innovation Offices, Regulatory Sandboxes and SupTech solutions. The promotion of competition and innovation is rarely formally a statutory objective for regulators in the Western Balkans. However, it is possible to justify some types of pro-competitive regulation in terms of more traditional objectives, and a number of fintech-related initiatives in the region suggest that several regulatory authorities have strategic priorities related to competition despite lacking a statutory objective in this regard.

## Fintech-specific policy and regulatory initiatives in the region

### Innovation offices

**Innovation offices are formally established in North Macedonia and Montenegro.** However, the increasing need to deal with technology-specific questions from the industry has often resulted in one or two units/departments within the regulator becoming de facto central points of contact. Examples include:

- the Supervision Department within Bank of Albania;
- the Unit for the financial system at the Banking Agency of Republika Srpska;
- the International Cooperation & Development Department within Serbian Securities Commission and;
- the Payment System Department at the National Bank of Serbia.

Box 2 summarises some of the key characteristics of North Macedonia's Innovation Office from the perspective of one of representatives.

### Regulatory Sandboxes

**The first and, to date, only Regulatory Sandbox in the Western Balkans was established at the Securities Commission of Montenegro in September 2019.** The Securities Commission adopted detailed rules that govern the scheme's objectives, criteria and application process.[40]

The aim of the Sandbox is to allow potential new market entrants and existing fintech firms to test financial innovation within a controlled regulatory environment, in particular when the applicable regulation is inappropriate or unclear. While firms are in the Sandbox, the Commission will assess and supervise the risks associated with their innovative products or services, as well as their compatibility with existing regulations. In order to be accepted, firms must offer innovative financial solutions with clear benefits to consumers, such as more practical, safer, or cheaper financial services. In return, they will enjoy several benefits from participating in the scheme, for example the receipt of advice from relevant authorities, a more lenient fining policy, and an accommodating interpretation of current rules based on the principle of proportionality.

[40] Pravila o regulatornom okviru za finansijske inovacije (Sandbox), Official Gazette of Montenegro, No 054/19.

## BOX 2. NORTH MACEDONIA'S INNOVATION OFFICE

The Innovation Office in North Macedonia has been fully operational since June 2019. It is conceptualized as a working group within the central banks and currently gathers an interdisciplinary team of eight people from different departments. The main goal of the office is to increase internal capacity to deal with fintech issues, raise awareness about the benefits and risks of the fintech sector, as well as assist market participants with regulatory clarity. As in other jurisdictions, the aim is to issue legally non-binding opinions with respect to inquiries from new market entrants and new products and services. The Office will cover several domains: Digital Identity, Open Banking and API, Tokenization of Financial Instruments, Crowdfunding, Crypto Assets, and possibilities for developing a Central Bank Digital Currency (CBDC). The idea is to react proactively, even though market demand is still modest.

Two main goals of the Innovation Hub:

1. **Short-term goal:** establishing the 'Innovation gate'. This will be a central point of contact. A list of common questions and the template answers will be published through this gate. This is also meant to educate the public. In addition, there will be the possibility to ask questions through the gate. Moreover, non-binding opinions relevant for the entire market will be published there as well.
2. **Medium-term goal** is to develop a Fintech Strategy and Action Plan in order to help the development of fintech activities. For this purpose, the Innovation Office will map out the fintech landscape and study the business models in more detail. For the purpose of understanding where the legal barriers lie, the Office will scan the existing legal and regulatory framework to identify where the impediments come from.

### Bespoke fintech regulatory regimes

**While none of the countries in the region have bespoke fintech regulatory regimes in force, there are two fintech-specific laws on the horizon, both focused on crypto-assets.**

1. The Serbian Securities Commission began a consultation process on regulation of crypto-assets in the Republic of Serbia on March 9, 2019.[41] The main aim of such regulation is to bring more legal clarity in relation to crypto-assets which qualify as financial instruments.
2. Albania submitted the draft of the Law on Financial Market based on Distributed Ledger Technology (DLT) to the Parliament for approval. The new law will be covering different activities and intermediaries in relation to crypto-assets. The Chapter 5 discusses in more detail the two initiatives in relation to regulatory challenges per fintech model.

## OVERARCHING REGULATORY FRAMEWORKS

**Various fintech activities raise a number of common regulatory issues concerning: AML/CTF protection, consumer protection, data-protection and cybersecurity, and third-party access to banking data and infrastructure under 'open banking' frameworks.** Since all countries in the region are aiming at EU accession, they tend to harmonise their laws and regulations with EU law. Thus, the latest EU regulatory developments can serve as a useful benchmark to assess the current stage of development of existing frameworks. There are two constraints to this approach:

1. Firstly, regulation of a number of important fintech activities is not harmonised at the EU level. Frameworks for P2P lending and equity crowdfunding are largely subject to national law and regulation, and will remain so even after the currently proposed Crowdfunding Regulation[42] comes into effect.

[41] Serbian Securities Commission, 2019, http://www.sec.gov.rs/index.php/sr/component/edocman/7114-позив-на-консултације-о-регулацији-крипто-имовинских-права-у-републици-србији

[42] See: Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on European Crowdfunding Service Providers (ECSP) for Business, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52018PC0113

2. Secondly, the existence of a regulatory framework (so-called 'de jure' institutions) does not tell us much about the level of enforcement ('de facto' institutions). As conveyed by a number of industry participants, sometimes it is not the actual framework but rather inadequate enforcement that has been a major concern of some fintechs in the region.

## AML/CTF and e-KYC

**Two major questions arise at the intersection of AML/CTF regulations and fintechs.**

1. Firstly, the question is which fintech sectors are covered by current AML/CTF rules.
2. Secondly, it is important to understand whether e-KYC methods are allowed and under which conditions.

**All the jurisdictions in the Western Balkans have in place AML/ CTF frameworks, which are mostly aligned with AMLD IV.** Serbia, Montenegro and Albania have to some extent also implemented AMLD V & Law Enforcement Directive. In Republika Srpska, some elements of the AMLD V were transposed into Law on Domestic Payment Operations (centralized bank account register). The full implementation implies that e-wallet providers as well as virtual currency exchange service providers are subject to the AML/CTF regime. AML regulations play a big role with respect to permissibility of e-KYC methods. Based on regulators' insights, permitted methods of identity verification in relation to KYC requirements vary across the region.

- Digital identity and e-KYC are not operational in Bosnia and Herzegovina[43] and Kosovo. There is legislation based on which certified electronic signature can be used, however, the certification body issuing signatures is not yet operational.
- In North Macedonia, Albania, and Montenegro customer identity may be verified on the basis of a qualified electronic signature. However, firms and especially individuals rarely have such signatures, making e-KYC very difficult.
- In Serbia, video identification methods have only been available since 2019. However, interviewees from the industry think that the regulatory conditions for implementing such solutions are so strict that they are effectively inapplicable.

**According to some industry participants across the region, lack of adequate and operational e-KYC rules is one of the biggest obstacles fintechs face in their daily operations, in addition to lack of clarity on whether AML rules apply to their business in the first place.**

## Consumer protection with respect to digital financial services

**Consumer protection is one of the key goals of financial regulation endorsed by financial regulators across the Western Balkans.** Given the unregulated nature of some fintech business models, in particular where the remit of regulators is not defined, some interviewees felt there might be a danger that existing regulatory safeguars may not apply to fintech activities. While this study does not analyse in detail consumer protection regimes applicable to different fintech models in different jurisdictions, some issues are common. For instance, in a number of countries, there is no specific legislation conferring consumer rights or protection from unfair terms on users of financial services. Such rights may, nevertheless, be contained in a number of different laws regulating specific financial service providers (banks, microcredit organizations, leasing providers, insurance companies etc.). The issue of consumer protection remains if fintech service providers do not fall under the definition of any of the traditional financial entities. Consumer protection of users of financial services are also rarely adjusted to digital channels of communication. The new Law on the Protection of Financial Service Consumers in Distance Contracts recently adopted in Serbia may serve as a good guidance for other countries in the region.[44]

[43] The number of applications refers to the aggregate number in Bosnia & Herzegovina, without being able to distinguish between those in different Entities. Jurisdiction over the financial sector in Bosnia & Herzegovina is at the Entity level, and the data provided in tables is aggregated based on the data on the financial sector of the Republic of Srpska and financial sector of the Federation of BiH.
[44] RS Official Gazette, No 44/2018.

## Data protection and cybersecurity

**The EU has recently introduced new data protection and sharing legislation - the General Data Protection Regulation (GDPR).[45]** The core aim is to provide individuals with more control over how their personal information is accessed, stored and communicated. As a result of the new framework, fintechs will have to obtain users' consent for processing their personal data. In addition, they are required to ask for additional consent if they want to share data with third parties. An increasing number of fintechs globally use biometrics (e.g. fingerprints) to identify their users. Another safeguard of GDPR is that fintech firms using biometrics as a recognition mechanism must have in place adequate controls to prevent unauthorised access to it. Other important safeguards include, for instance, 'the right to be forgotten' (right to request to delete financial data) as well as responsibility for data processing which involves third party providers and outsourcing. Overall, countries in the region seem to have in place coherent data protection frameworks aligned with EU standards.

**All regulators in the Western Balkans reported that there are data protection frameworks in their jurisdictions. Serbia, North Macedonia, and Kosovo have already harmonized their data protection framework with GDPR, while in Albania, the new legislation is being drafted.** In BiH, the new legislation is expected to be passed in 2020.[46] Information on the date of likely harmonization of the data protection framework in Montenegro is not publicly available. In addition to data security, a rising concern flowing from the widespread digitalization of financial services is the exposure of firms and consumers to cybersecurity risk. Cybersecurity threats affect both incumbent financial institutions, who increasingly rely on technology, and fintech challengers. While central banks in all countries in Western Balkans, have mature IT and operational risk departments, the need to actively supervise cybersecurity and resilience in financial institutions will likely raise the issue of institutional capacity, as reported by some of the regulators. The Financial Stability Board (FSB) recently recommended that, in light of new technology developments, regulators should enforce ex ante contingency plans for cyberattacks on banks.[47]

## Open banking and digital payments

**Fintech businesses often depend on the infrastructure or data of incumbent banks.** However, incumbents are often reluctant to give access to their networks to newly emerging fintechs, for a number of reasons, for example the high technical costs that may be involved, and possibly the fear of increased competition. Banks' unwillingness to cooperate with fintechs can produce an effect of 'upstream market foreclosure'and thus reduce the competition and innovation in the sector. European legislators have recently recognised this problem and tried to address it through the Revised Payment Service Directive (PSD2).[48] The core idea is that banks must create standardised application programming interfaces (APIs) to allow their customers to use third-party providers to manage their finances. This includes providers who initiate payments and those who access the user's transaction information to analyse user's spending patterns, for example with a view to assessing their creditworthiness for the purposes of obtaining a third-party loan.

**Regulators in the Western Balkans have built the awareness of the promise of open banking, and harmonisation with PSD2's open banking requirements, into cornerstones of their fintech policy agenda.** An overview of expected implementation dates can be seen in Table 13.

[45] Regulation (EU) 2016/679, https://ec.europa.eu/commission/priorities/justice-and-fundamentalrights/data-protection/2018-reform-eu-data-protection-rules_en

[46] Some core elements of data protection provided in GDPR were transposed in Republica Sprska for the purpose of protecting natural person's data collected in the centralized bank account register. Law on Amendments to the Law on Internal Payment System, Official Gazette of the Republic of Srpska, No 58/2019.

[47] Financial Stability Implications from FinTech, Financial Stability Board, 2017, https://www.fsb.org/wp-content/uploads/R270617.pdf.

[48] Payment services (PSD 2) - Directive (EU) 2015/2366, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32015L2366

**TABLE 13.** STATE OF IMPLEMENTATION OF PSD2

| Country/ Jurisdiction | Implemented (Yes/ No?) | Expected Date of Implementation |
|---|---|---|
| Albania | No | 2020 |
| Kosovo | No | 2020-2022 |
| Bosnia and Herzegovina[49] | No | Unknown |
| North Macedonia | No | 2020 |
| Montenegro | No | 2020 |
| Serbia | No | Latest until the accession of the Republic of Serbia to the EU |

Three jurisdictions have made concrete plans to implement the new directive.

1. In Albania, the new law on payments, which will implement provisions of PSD2, has been submitted to the Parliament for approval.
2. The Central Bank of Montenegro prepared the draft amending the Payment System Law, in order to transpose provisions of PSD2. According to the Programme of Accession of Montenegro to the EU 2020-2022, the adoption of this law is planned in the fourth quarter of 2020.
3. In North Macedonia, implementation of PSD2 is also seen as one of the priorities by their Innovation Office at the Central Bank of North Macedonia.

[49] Jurisdiction over the financial sector in Bosnia & Herzegovina is at the Entity level, and the data provided in tables is aggregated based on the data on the financial sector of the Republic of Srpska and financial sector of the Federation of BiH.

# CHAPTER 5.

# REGULATORY CHALLENGES FOR FINTECH DEVELOPMENT

**The aim of this chapter is to consider in more detail some of the key regulatory issues inherent in specific fintech models, in particular with respect to:**

1. Digital payments
2. P2P lending
3. Equity crowdfunding and;
4. Crypto-assets.

Given the diversity of fintech sectors in terms of technology employed and areas of finance, the choice of fintech verticals was motivated by their importance for the Western Balkans region in terms of potential benefits and as well as market demand.

## DIGITAL PAYMENTS

**To allow for innovation in payments to emerge, regulators face the challenge of creating a proportional regulatory regime for non-bank payment service providers, without compromising the safety of national payment systems.** This implies that the regulatory burden has to be tailored to the risk of new products and business models.[50] Among non-bank service providers, it is important to distinguish between businesses who merely execute payment transactions (including issuing and/or acquiring of payment instruments), usually denoted as payment institutions, and businesses which are allowed to store or issue e-money, usually denoted as e-money institutions. In addition, a critical element for the emergence of fintech payment solutions is that non-bank payment service providers have access to payment systems and banking infrastructure, in particular users' transaction accounts. This has been discussed as part of the 'open banking' solution, which has been introduced in the EU with the adoption of PSD2. The same directive allows for the emergence of fintech solutions through a license for new third-party service providers: Payment Initiator Service Providers (PISP) and Account Information Service Providers (AISP). PISP essentially allows PISPs to initiate the transaction on behalf of the user and triggers the transfer through the user's account. By contrast, (AISP) can only access account information from one or a few accounts of the user, analyse it and aggregate account data for the user, or transfer the data to a third party on behalf of the user. Sharing account data with a third party may, for instance, be used to assess the creditworthiness for the purposes of obtaining a loan.

**Financial markets in Western Balkans are characterized by a strong presence of banks, including in the area of payments.** It is thus worth examining to what extent regulatory frameworks in respective countries are supportive of the emergence of non-bank service providers in line with the above considerations. Given the tendency of the countries in the region to align their frameworks with EU regulatory frameworks, EU rules on payments systems and services can serve as an adequate guidance. Two frameworks are of particular importance: Payment Services Directive 1 and 2[51] and E-Money Directives 1 and 2.[52] A summary of of the respective remit of regulators in the Western Balkans and the current status of payment regulations related to fintech payment firms is presented in Appendix 9 (Table 21).

**Regulatory frameworks with relevance to digital payments are not harmonized across the region.** Payment-institution licenses, which would allow innovative fintech firms to enter the market, do not exist in North Macedonia and Bosnia and Herzegovina. In Serbia, Montenegro, Albania and Kosovo there are a few non-bank payment institutions operating.

**Even in countries with no payment institution license some innovative digital payment solutions have emerged.** However, the question arises whether for such businesses, safe adequate safeguards are in place, and whether similar firms are reluctant to enter the market due to regulatory uncertainty. The lack of open banking solutions as envisaged by PSD2 is also a hurdle for a few both licensed and unlicensed payment institutions, who reported lack of access to banking infrastructure and data as one of the biggest hurdles. Countries in the region have achieved some considerable improvements concerning the regulatory framework for e-money licenses. All countries, except BiH[53], have in place a regulatory framework for e-money institutions.

[50] A number of other factors may play an important role for the development of payment solutions beyond fintech in the region. See: Payment Aspects of Financial Inclusion (PAFI) framework, World Bank and Committee on Payments and Market Infrastructures (CPMI), 2015, https://www.bis.org/cpmi/publ/d133.pdf

[51] Directive 2007/64/EC and Directive 2015/2366, https://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX%3A32007L0064; https://eur-lex.europa.eu/eli/dir/2015/2366/oj

[52] Directive 2000/46/EC and Directive 2009/110/EC, https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32000L0046; https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:267:0007:0017:EN:PDF

However, new harmonization efforts are expected in relation to E-Money Directive 2.

**Apart from innovation that comes from fintechs as licensed institutions, quite a few novel digital payments solutions globally are a result of partnerships between incumbent banks and fintechs.** In all of the jurisdictions in the Western Balkans (except for Albania where this is provided in the draft of the new Law on payment service) regulatory frameworks provide that banks can operate through their agents, or outsource some of their activities to third parties. However, laws and regulations in place vary in terms of the level of sophistication. In particular, rules in some jurisdictions often do not specify which services can be outsourced, whether the agent has to be licensed or approved by the regulator, and whether banks have to include the risks stemming from outsourcing in their risk management systems.

**In relation to cross-border digital payments, additional regulatory impediments are likely to emerge.** Insights from several market participants show that foreign exchange regulations are constraining in both Serbia and BiH. However, further legal review and analysis needs to be done to ascertain the specific issues in each of the jurisdictions and how this is likely to affect digital payments, but also other fintech verticals with cross-border elements.

**Based on these findings, we outline a list of recommendations in relation to digital payments, which are based on best comparative experiences.**

## PEER TO PEER LENDING AND DIGITAL MICROFINANCE

**P2P lending and digital microfinance represent two substantially different business models.** Both promise to empower underbanked segments of the market increasing access to finance, particularly for MSMEs who lack the collateral or other guarantees needed to obtain bank funding. Microfinance institutions differ in terms of sources of funding, they all assume the client's default risk, although on a smaller scale in comparison to banks due to small loan amounts. As such they are usually subject to lighter prudential regulations and business conduct rules. Despite their use of digital channels, the business models of digital microfinance providers, which have been complementing banking finance for decades, do not pose any inherently new regulatory challenges.

Microfinance institutions are regulated and licensed in the Western Balkans countries. Serbia is the only country in the Western Balkans without a regulatory framework tailored to microfinance, which could explain why there is only one microfinance institution (Agroinvest) operating. The supervision powers over microfinance intermediaries remain with central banks, except for North Macedonia in which microfinance institutions are supervised by the Ministry of Finance. In comparison with other fintech models covered in our questionnaire, regulators were able to provide better estimates of the number of licensed microfinance institutions, shown in Appendix 9 (Table 22).

## BOX 3. RECOMMENDATIONS FOR DIGITAL PAYMENTS

1. Identify national gaps in adoption of EU legislation relevant to payment systems and services, in particular, Payment Services Directives 1 and 2 and E-Money Directive 1 and 2.
2. In particular, introduce and/or strengthen regulatory frameworks for non-bank payment institutions and e-money issuers. Provide guidance in relation to licensing requirements.
3. Revise and strengthen rules on agent networks and third-party providers and include them as part of risk management strategies of banks.
4. Revise foreign exchange law and regulations to identify and act upon any regulatory impediments to cross-border fintech payment solutions.

[53] Jurisdiction over the financial sector in Bosnia & Herzegovina is at the Entity level, and the data provided in tables is aggregated based on the data on the financial sector of the Republic of Srpska and financial sector of the Federation of BiH.

Data on the number of microfinance institutions which provide digital-based lending does not seem to be available. Nevertheless, given the high number of microcredit institutions in different countries in the Western Balkans, it seems that penetration of digital microfinance in the region depends on a wider ecosystem which stimulates development of fintech such as digital CDD procedures, consumer law framework, cybersecurity, data protection & other matters discussed in Chapter 4.

**Unlike microfinance, P2P lending business models are often inherently novel, not only in terms of the technologies they employ but also in the way in which funds are disbursed and collected to and from borrowers.** P2P lending, which is also known as loan-based crowdfunding, implies borrowing funds from a large number of individual borrowers - the 'crowd'. Conventional P2P lending models imply that the intermediary (P2P lender or crowdfunding platform) does not take any default risk on its balance sheet, which clearly distinguishes them from banking and microfinance. Instead, the risk of default is entirely borne by the "crowd", whereas the platform mainly serves as an information intermediary. Depending on the business model, a P2P platform preselects borrowers, estimates credit risk of borrowers, determines the appropriate interest rate, provides boiler-plate contracts between borrowers and lenders, and facilitates the transfer and recollection of funds. While the first P2P platforms used to rely on auction as a mechanism to determine the interest rate, P2P evolved to determine the interest rate using algorithmic predictions of the default risk, based on different sources of hard and soft data. The new model also implies that platforms group borrowers with similar risk into a portfolio. Prospective lenders then choose the risk-return profile of borrowers they are interested in and the platform automatically diversifies their investment across different portfolios. This mechanism is inherent in both consumer and business P2P lending.

There are a number of key regulatory questions worth focussing on when considering P2P lending:

1. The first dilemma regulators often face when dealing with P2P lending is whether these models fall under existing banking regulations and consequently, whether P2P platforms are required to have a banking license. However, this is unlikely to be the case in most jurisdictions. Unlike traditional banking model, P2P platforms are not trading with their own balance sheet and thus, do not perform liquidity or maturity transformation like banks do.
2. The second important question in relation to P2P lending is whether individual lenders need to be licensed, especially if they extend loans on a regular basis to a large number of borrowers. In some jurisdictions, P2P lending can be prohibited based on a law provision which stipulates that only banks are allowed to extend loans. The next step of analysis usually requires interpreting what the legislator meant by the term loan, in particular whether individuals, acting in a personal capacity are deemed lenders within the meaning of banking laws.
3. The third important question is whether a P2P platform needs to be licensed as a payment institution. While platforms usually do not hold client's monies, they do trigger the transfer of funds from lenders to borrowers.

**All of these questions seem to be relevant to regulators in the Western Balkans, which are struggling to give a definite answer whether P2P lending is permitted or prohibited, as well as which institution has a jurisdiction to supervise the behavior of platforms.** The overview of remit of regulators and licensing requirements in the Western Balkans is provided in Appendix 9 (Table 23). Among six countries in the region, only regulators in North Macedonia explicitly allow P2P activity. The case of Serbia is interesting because the National Bank of Serbia and the Securities regulator did not provide a uniform answer as to whether such activity is permitted. P2P lending appears to be allowed according to capital markets regulations but it remains unclear whether it is permitted pursuant to banking and payment laws. North Macedonia and Serbia are the only countries which reported receiving inquiries from members of the industry (potential market entrants). In contrast, the Central Bank of the Republic of Kosovo and the Banking Agency of Republika Srpska consider P2P lending to be prohibited activity. Regulators in all other countries think of the existing regulatory framework as unclear in relation to this activity. The representatives of the Banking agency and the Ministry of Finance in Republika Srpska provided guidance as to why they deem P2P lending prohibited:

> *In accordance with Article 4 of RS Law on banks no one other than a bank can be involved in receiving deposits or other repayable funds, granting loans and issuing payment cards on the territory of Republika Srpska, unless they have a license for the above-mentioned operations issued by the BARS in accordance with this Law.*

**As briefly discussed outside the context of regulation in Western Balkans, neither platforms nor lenders are involved in receiving deposits under the classic P2P model.** However, in some jurisdictions, the interpretation of the term "granting loans" might be broad enough to capture individuals lending funds while acting in a personal capacity. If neither P2P platforms nor lenders require a license, but P2P activity is not prohibited, a number of questions arise. Unlike traditional banking models, in which the focus of consumer protection is on borrowers, in the case of P2P lending, lenders are also individuals in need of protection against risky lending. In addition, in may be unclear whether borrowers can benefit from safeguards against excessive borrowing, when the counterparty in the contract is another individual acting in a personal capacity. Another important regulatory concern is, whether in the case of unlicensed intermediaries, AML/CTF rules apply ensuring P2P lending is not used for pursuing unlawful purposes.

**Therefore, providing guidance as to whether platforms or lenders need to be licensed, appears to be an important first step in providing legal certainty necessary to stimulate the growth of the sector.** As shown in recent studies, there is a strong correlation between how market participants perceive the adequacy of regulatory regime and the growth of the industry.[54] In particular, countries with highest P2P volumes are countries which introduced bespoke P2P lending regimes in the early stage of industry development. Box 4 summarises some of the key issues addressed in bespoke regimes across Europe, without intention to provide a comprehensive list of rules.[55]

In sum, unlike with digital microfinance, regulatory regimes in the Western Balkans do not provide sufficient clarity concerning the operation of P2P lending models. Given the small number of inquiries received from potential market entrants, it is not surprising that regulators in the regions do not consider this area as a priority in terms of future regulatory change. However, if one considers the benefits of P2P lending for financial inclusion and SMEs financing, it may be advisable for policy makers to take a proactive stance. Some recommendations in relation to creating a sound regulatory environment for P2P lending activity are provided in Box 5.

## BOX 4. BESPOKE REGIMES FOR P2P LENDING ACROSS EUROPE: SUMMARY OF KEY CONSIDERATIONS

- Types of lenders and borrowers (Consumers/Businesses)
- Types of loans
- Licensing requirements
- Minimum capital requirements
- Rules on money handling (in relation to provision of payment services)
- KYC rules and other AML/CTF regulations
- Business continuity requirements
- Limitations on the size of loans and investable amount for individual lenders
- Mandatory disclosure by borrowers and platforms
- Conflict of interest
- Professional requirements
- Due diligence of platforms

[54] Shifting Paradigms: The 4th European Alternative Finance Benchmarking Report, CCAF, 2019, https://www.jbs.cam.ac.uk/faculty-research/centres/alternative-finance/publications/shifting-paradigms/#.XcUkL0VKgdU

[55] For an overview of rules on P2P lending in Europe, see: Impact assessment accompanying the Proposal for a Regulation of the European crowdfunding service providers (ECSP) for business, European Commission, 2019, https://ec.europa.eu/info/sites/info/files/180308-proposal-crowdfunding-impact-assessment_en.pdf

## BOX 5. RECOMMENDATIONS FOR P2P LENDING

1. Review existing regulatory framework in relation to banking and payment services and provide guidance whether P2P lending activity is permitted under existing rules. In relation to this, issue clarifications whether licensing requirements apply and under which conditions.
2. Review existing regulatory framework in relation to consumer protection to provide more clarity as to whether existing consumer protection safeguards apply to P2P lenders.
3. Identify areas of P2P activity which are not covered by existing rules and at the same time pose risk to lenders.
4. Verify whether existing rules protect P2P borrowers from excessive borrowing.
5. Consider the application of AML to P2P platforms to minimize the risk of P2P lending being used for unlawful activities.
6. Consider introducing a bespoke regime, depending on the market demand, the importance of loopholes in existing regulations, and institutional capacity for enforcing new rules. Review comparative regulatory efforts for best solutions.

# EQUITY-BASED CROWDFUNDING

**Equity-based crowdfunding, promises to bring new funding opportunities to startups and SMEs dependent on bank finance, which is seldom available in the absence of collateral and stable cash flows.** This model is also associated with some non-monetary benefits such as validation of a business idea and new marketing channels. For investors, equity crowdfunding offers participation if the firm's future cash flows thanks to an ownership stake. Equity crowdfunding shares many common features with P2P lending, which is the reason why they are jointly referred to as 'financial-return crowdfunding' in contrast with crowdfunding models which do not generate any financial returns (donation-based and reward-based crowdfunding). Instead of equity crowdfunding, regulators and academia often use the term investment-based crowdfunding to capture crowdfunding models which involve other types of securities, such as debt securities.

**In essence, there are two main differences between lending-based and equity-based crowdfunding:**

1. Lending models can be used to collect funds by both individuals and business, while equity-based crowdfunding is by definition limited to fundraising firms.
2. Lending models generate fixed returns in the form of interest rate whereas investment based-models generate return which depends on the performance of a fundraising firm. As a consequence, lending-based models are considered less risky. However, sometimes the line between investment-based and lending-based models is blurry. For instance, debt-based securities issued on crowdfunding platforms often do not have a secondary market and thus resemble simple loan agreements. In addition, hybrid types of loans such as subordinated loans and profit-participating loans are gaining in importance in many jurisdictions, adding a variable component to fixed returns inherent in loan contracts.

**The way in which business models of lending-based and equity-based platforms have evolved over time has created many more differences between the two types.** As described in the previous subchapter, P2P lending often entails automated credit scoring by platforms which determine the interest rate of loans and automatically diversify investments of individual borrowers across different portfolios, based on their preference for risk-return profile. In equity models, the price of equity is usually determined by fundraising firms and investors decide independently which project they are going to invest in. Therefore, the role of platforms in these models are somewhat different. Platforms have a much larger role in preselecting projects which will be listed on the platform. They also perform some degree of due diligence, and in the absence of mandatory rules on disclosure, they create rules on the type and amount of information that project owners have to disclose to potential investors. Sometimes, they also exercise voting rights on behalf of investors through different collective governance schemes.

**The key regulatory dilemma in many jurisdictions concerning equity crowdfunding is whether a prospectus regime is applicable to the issuance of shares on platforms.** Given that prospectus requirements in most jurisdictions are too costly and burdensome for companies in the seed stage or SMEs wanting to raise capital, most equity crowdfunding models rely on some kind of exemption from prospectus regime. The exemption is sometimes triggered by the amount of funding raised. This is due to the fact that according to prospectus rules in most jurisdictions, including countries which transposed Prospectus Directive[56], prospectus is not required for issuance of securities below a certain threshold. In addition, the prospectus is often not required in relation to some types of financial instruments (For instance instruments which in some jurisdictions are not considered transferable securities in line with MiFID regime in the EU, such as shares in limited companies). However, the inapplicability of prospectus requirements potentially exacerbates the information asymmetry problem between project owners and investors due to lack of adequate disclosures.

**Similarly, in relation to the regulatory treatment of crowdfunding platforms, the most important question across different jurisdictions is whether they perform investment brokerage services.** The answer to this question bears importance for the application of investor protection rules and business conduct rules when there is no bespoke crowdfunding regime. In the EU context, many equity crowdfunding platforms do not intermediate transferable securities and, as a consequence, do not qualify as investment firms under MiFID regime. This might potentially leave investors exposed to risk without necessary safeguards. The overview of the regulatory approaches is provided in Appendix 9 (Table 24).

**While currently there is no bespoke crowdfunding regime in any of the countries in the region, regulators interpret existing domestic regulations differently.**

- Representatives of the Central Bank of the Republic of Kosovo were the only ones to consider equity crowdfunding as a prohibited activity.
- Regulators in North Macedonia and Serbia are specific for having two different regulators having a different view on permissibility of equity crowdfunding.
- In North Macedonia, equity crowdfunding is permitted from the lenses of banking and payments regulator (the Central Bank of North Macedonia), whereas Securities regulator considers it to be unclear.
- In Serbia, the opposite interpretation of existing rules was offered. Equity crowdfunding is not disputable from the perspective of the Securities Commission, while the National Bank of Serbia has doubts over permissibility of such activity.

**As a general pattern, since equity crowdfunding is not explicitly recognized by existing laws and regulators, a few regulators in the Western Balkans are reluctant to express whether such activities are permitted or prohibited.** Moreover, they are reluctant to claim regulatory and supervisory powers over crowdfunding intermediaries. This might suggest that they embrace entity-based rather than activity-based approach, in line with discussions in Chapter 4. Only regulators in North Macedonia and Serbia reported having received inquiries from potential market entrants, with representatives of the North Macedonian Securities Commission reporting that one foreign platform is already active in the market. It is worth examining their approach to licensing requirements.

> *The SEC does not issue licenses nor regulates any of the fintech activates stated above […]. In the country, to our knowledge, there is one crowdfunding platform that operates through the North Macedonian stock exchange; however, the stock exchange only provides commercial support to a regulated entity from the EU. The SEC does not have authority to license or to supervise this crowdfunding platform.*

[56] Directive 2003/71/EC, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32003L0071

**The lack of authority of different regulators to license or supervise equity platforms leads to concerns about inadequate investor protection, lack of business conduct rules and AML risks.** A number of jurisdictions in Europe, facing similar regulatory challenges introduced a bespoke crowdfunding regime. The aim of such regime is to prevent circumvention of necessary safeguards developed in relation to traditional financial sector while at the same time taking into consideration the particularities of crowdfunding models. This gives rise to two major considerations.

1. Fundraising firms are small companies which have limited resources to dedicate to regulatory compliance, thus, mandatory disclosure requirements towards prospective investors have to be relaxed.
2. The role of crowdfunding intermediaries is usually limited to reception and transmission of order in relation to securities (in terms of MiFID rules), and as such requires less stringent business conduct requirements in comparison with some other roles of investment firms (such as providing investment advice of portfolio management).

**Based on these two considerations, countries in Europe developed national crowdfunding regulatory frameworks with quite a few differences.** Some recommendations in relation to creating a sound regulatory environment for equity crowdfunding are provided in Box 6.[57]

**In addition, a few potential market entrants who participated in the market research draw attention to another issue preventing equity crowdfunding to emerge in Serbia.** Namely, Serbian company laws require a notary acknowledgement for issuance of shares in limited companies, which is incompatible with digital nature of crowdfunding business. Similar requirements may exist in other Western Balkan countries. Notary acknowledgement requirements used to exist in the UK, for instance, and were abolished in order to provide more flexibility in relation to capital raising. Overall, in line with findings in Chapter 2 that access to finance represents an important hurdle for innovative startups in the Western Balkans region, equity crowdfunding could potentially alleviate this problem. However, it seems that policy makers would have to take certain initiatives to facilitate the market entrance of crowdfunding intermediaries and introduce rules which would create more trust in the industry for both fundraising firms and investors. Based on a comparative experience, Box 7 outlines some of the recommended steps.

## BOX 6. BESPOKE REGIMES FOR EQUITY CROWDFUNDING ACROSS EUROPE: A SUMMARY OF KEY CONSIDERATIONS

- Types of financial instruments covered
- Licensing requirements/Autorisation
- Minimum capital requirements
- Type of services offered by the platform
- KYC rules and other AML/CTF regulations
- Business continuity requirements
- Limitations on the size of the offer and investable amount for individual investors
- Mandatory disclosure by borrowers and platforms
- Conflict of interest
- Professional requirements
- Due diligence of platforms

[57] For an overview of rules on Equity Crowdfunding in Europe, see: Impact assessment accompanying the Proposal for a Regulation of the European crowdfunding service providers (ECSP) for business, European Commission, 2019, https://ec.europa.eu/info/sites/info/files/180308-proposal-crowdfunding-impact-assessment_en.pdf

## BOX 7. RECOMMENDATIONS FOR EQUITY CROWDFUNDING

1. Review existing regulatory framework in relation to capital markets and issue guidance whether equity crowdfunding is permitted under existing rules. In relation to this, issue clarifications whether licensing requirements for investment firms apply and under which conditions.
2. Review existing regulatory framework in relation to consumer/investor protection to provide more clarity as to whether existing consumer protection safeguards apply to crowdfunding investors.
3. Identify areas of crowdfunding activity which are not covered by existing rules and at the same time pose risk to investors.
4. Consider the application of AML/CTF to equity crowdfunding platforms to minimize the risk of equity crowdfunding being used for unlawful activities.
5. Consider introducing a bespoke regime, depending on the market demand, the importance of loopholes in existing regulations, and institutional capacity for enforcing new rules. Review comparative regulatory efforts for best solutions.

# CRYPTO-ASSETS

**The increased popularity of Distributed Ledger Technology systems, in particular blockchain, has opened up new markets for the the creation and distribution of crypto-assets such as Bitcoin.** The promise of DLT systems lies in the decentralized way in which information is stored, transferred and validated, aiming to provide an additional level of security in comparison to traditional data registries and data storage devices. While regulators differ as to how they define crypto-assets,[58] the term is commonly used to denote asset which "depends primarily on cryptography and distributed ledger technology (DLT) […] as part of its perceived and inherent value".[59] However, some definitions also include traditional assets which are recorded on a DLT system. Crypto-assets can serve different economic purposes:

1. as means of exchange or storage of value (payment tokens, cryptocurrencies or digital currencies)
2. as investment instrument (security tokens)
3. to access a digital platform, good or service (utility tokens).

**Payment tokens typically do not grant any right, unlike investment tokens, which create debt or equity claim on the issuer, and utility tokens, which grant the right to a good or service.** In many instances, the nature of crypto-assets is hybrid. In particular, crypto-assets which can be deemed both security tokens and utility tokens are common. The most problematic are crypto-assets with features of investment instruments. The concern is that if these assets are not treated as securities, a number of important investor protection safeguards will not be in place.[60]

**In addition to complex nature of crypto-assets, regulators struggle how to address different types of crypto-assets activities: crypto-asset creation (also known as mining), initial distribution (ICOs) and secondary trading.[61]** In relation to these activities, the advent of crypto-assets has led to

[58] For an overview of regulators' cryptoasset definitions, see: Global Cryptoasset Regulatory Landscape Study, the Cambridge Centre for Alternative Finance, 2019, p. 113-116, https://www.jbs.cam.ac.uk/fileadmin/user_upload/research/centres/alternative-finance/downloads/2019-04-ccaf-global-cryptoasset-regulatory-landscape-study.pdf

[59] See: Report with advice for the European Commission on crypto-assets, EBA, 2019, p. 10, https://eba.europa.eu/sites/default/documents/files/documents/10180/2545547/67493daa-85a8-4429-aa91-e9a5ed880684/EBA%20Report%20on%20crypto%20assets.pdf?retry=1.

[60] In relation to the issuance of crypto-currencies the most important safeguard is mandatory disclosure (prospectus). As to crypto-asset exchanges and custodian wallet providers, the danger is the lack of rules on conduct of business rules, suitability tests, operational resilience and cybersecurity, segregation of funds and conflict of interest. See: See: Report with advice for the European Commission on crypto-assets, EBA, 2019, p. 16, https://eba.europa.eu/sites/default/documents/files/documents/10180/2545547/67493daa-85a8-4429-aa91-e9a5ed880684/EBA%20Report%20on%20crypto%20assets.pdf?retry=1.

[61] For a more comprehensive overview of different crypto-asset activities, see: Global Cryptoasset Regulatory Landscape Study, the Cambridge Centre for Alternative Finance, 2019, p. 23-26, https://www.jbs.cam.ac.uk/fileadmin/user_upload/research/centres/alternative-finance/downloads/2019-04-ccaf-global-cryptoasset-regulatory-landscape-study.pdf

emergence of variety of different intermediaries, among which some perform crypto-asset specific tasks (such as miners) and some others perform roles which are well-known in traditional finance (such as exchanges or custodial services).

**To date, two regulatory trends are most common world-wide in this area.**

1. Regulators focus on investment tokens, ensuring that they are covered by existing securities laws, in particular in relation to ICOs. A common practice involves regulators issuing guidance as to how existing rules on capital markets are applicable.
2. Regulators extend the existing AML/CFT rules on new intermediaries, in particular crypto-asset trading platforms (exchanges) and custodian wallet providers. Mining activities are not in the regulatory focus, with few exceptions.[62]

**Given the vibrant market developments concerning crypto-assets in the Western Balkans (see Chapter 2), regulators in the region are trying to find an an optimal approach to ensure market integrity and investor protection.** Appendix 9 (Table 25) offers an overview of the current state of the regulatory framework relevant to crypto-assets. Currently, there is no bespoke regime for crypto assets in force in any of the Western Balkans countries. Most regulators were explicit that crypto-assets activities are unregulated in their jurisdiction. However, in Albania, the new *Law on Financial Market based on Distributed Ledger Technology (DLT)* has already been submitted to the Parliament for approval. The National Bank of Serbia reported that AML/CFT regulations apply to crypto-assets related activities. Similarly, as can be deduced from AML/CTF regulations in Montenegro, some crypto-asset intermediaries are subject to licensing requirements by the Central Bank of Montenegro.

**As to the permissibility of crypto-asset related activities, only the Central Bank of the Republic of Kosovo made it explicit that some activities are banned.** However, the prohibition only refers to financial institutions which are licensed by the Central Bank of the Republic of Kosovo.[63] Except for Albania, in which the new rules are soon to be enacted, other regulators currently struggle to give a definite answer whether such activities are permitted. This indicates that regulators are considering the possibility that some of the activities may fall under the perimeter of existing regulations such as securities, banking and payments laws and AML/CTF. Only two jurisdictions (Republika Srpska and Serbia) have provided the number of applications received from the industry in relation to crypto-currency activities. It is uncertain whether regulators in the region gather comprehensive data on different types/forms of crypto-assets, activities and intermediaries. Given the rapid growth of this market, there might be a need for a closer cooperation between the regulators and industry in relation to crypto-assets concerning data gathering process. Industry associations, such as Serbian Blockchain Initiative, might facilitate this.

**However, it seems that regulators across the Western Balkans are cautious about the risks inherent in crypto-assets activities stemming from their high volatility as well as lack of adequate regulatory framework.** For this reason, a number of recent regulatory initiatives are paving the way for a more comprehensive regulatory approaches to crypto-assets. For the purpose of clarity, they are grouped based on their scope and progressiveness.

## Crypto-asset initiatives in the Western Balkans countries

### 1. Warnings and other initiatives aiming at raising awareness

**In line with a widespread practice across different jurisdictions worldwide, distinct national regulators in the Western Balkans have issued warnings in relation to crypto assets.[64]** Both central banks and financial market conduct authorities

[62] For instance, examples include Russia, Germany, and China.

[63] This is in line with two recommendations from the EBA, which advices supervisory authorities to limit or discourage trade and holding of crypto-assets by credit, payment and e-money institutions.

[64] The Bank of Albania: https://www.bankofalbania.org/Press/On_the_risks_associated_with_the_use_of_virtual_currency.html
Albanian Financial Supervisory Authority: https://amf.gov.al/kujdes.asp#
The Central Bank of the Republic of Kosovo: https://bqk-kos.org/repository/docs/2017/ALB-EBA.pdf
The Republic of Srpska Securities Commission: http://www.secrs.gov.ba/Fajl.aspx?Id=579f9839-522c-4689-9eca-8a7522360b2f
The FbiH Securities Commission: http://www.secrs.gov.ba/Fajl.aspx?Id=579f9839-522c-4689-9eca-8a7522360b2f
The National Bank of North Macedonia: http://nbrm.mk/ns-newsarticle-soopshtieniie_na_nbrm_28_9_2016.nspx
The National Bank of Serbia: https://www.nbs.rs/internet/cirilica/scripts/showContent.html?id=7605&konverzija=no; https://www.nbs.rs/internet/cirilica/scripts/showContent.html?id=9604&konverzija=no
Serbian Securities Commission: http://www.sec.gov.rs/index.php/sr/index.php/sr/едукација/едукација-инвеститора/текстови/557-упозорење-улагачима-у-крипто-имовинска-права-криптовалуте-и-дигиталне-токене

are aiming at raising awareness about crypto-assets among public at large. Their major concern are risks stemming from money laundering and terrorism financing. However, the warnings relate to a wider set of concerns in relation to the absence of regulatory framework:

- Volatility of crypto-currencies and issues of their convertibility into fiat currencies
- Misconduct of crypto-asset exchanges and lack of investor protection
- The risk of cyberattacks
- ML/TF risks
- Data protection issues

In addition to official statements, some regulators, such as the Bank of Albania, aim at raising awareness through media. Representatives of this institution appear in talk shows, radio shows and publish news articles to educate the public about crypto-assets.

## 2. Partial regulation

**Given the diversity of crypto-asset activities, and the number of intermediaries involved, comprehensive regulations for crypto-assets are scarce in the EU and elsewhere.** It is very common for regulators to focus on most pressing issues, such as to prohibit certain crypto-related activities, address the risk of money laundering and terrorism financing, or regulate intermediaries which would not fall under the perimeter of existing regulations. Three countries in the Western Balkans (Serbia, Montenegro and Albania), already have in place, or are in the process of adopting, some crypto-asset specific rules.[65]

### a) Prohibitions

The National Bank of Serbia made it clear that crypto-assets cannot be used for making payment transactions, which is in line with rules stipulating that national payment transactions shall be executed in the national currency (Serbian dinar). Similar limitations are likely to exist in other countries in the Western Balkans, given that none of the jurisdictions recognizes crypto-currencies as fiat money, deposits or other repayable assets. However, according to the interpretation of a few market participants, this does not limit the role of of crypto-assets as payment tokens, as they are not treated as currencies and as such can be used in a barter for other goods and serivces. In addition, crypto-assets can still be used as a store of value.

### b) AML regulations

In line with European-wide regulatory trends, two countries in the Western Balkans created rules which extend AML/CFT rules to crypto-assets. In particular, Montenegro transposed the AMLD V into domestic Law on Prevention of Money Laundering and Terrorist Financing. According to Art. 4 of the Law, reporting entities are natural and legal persons engaged in activity of issuance and management of virtual currencies, including the services of exchanging virtual currencies into conventional currencies and vice versa. The same law in Art. 94 also foresees that the Central Bank of Montenegro supervises these entities to which it issues a license or approval for operation. However, it is unclear whether these rules are already operational and what kind of licensing requirements they entail.

Similarly, even though there is no bespoke regime for crypto-assets in Serbia yet, the Law on Prevention of Money Laundering and the Financing of Terrorism extends the scope of AML/CFT to include subjects providing the services of purchasing, selling or transferring virtual currencies or exchanging of such currencies for money or other property through internet platform, devices in physical form or otherwise. [66]

## 3. Considering the application of existing rules on capital markets

**None of the regulators in the Western Balkans issued official clarifications on how existing rules on capital markets can be applicable to crypto-assets which exacerbate features of investment instruments (investment tokens).** However, a few recent initiatives are likely to result in providing more guidance in this regard. For instance, a working group has been established within the Ministry of Finance of North Macedonia a few months ago, which brings together relevant

[65] At the time of writing this report, the adoption of the new Law on Financial Market based on Distributed Ledger Technology (DLT) by the Parliament in Albania is expected in a matter of days.
[66] RS Official Gazette, No 113/2017

regulators with the aim of issuing a report regarding the current regulatory regime connected with crypto-assets and making suggestions in terms of future regulatory endeavors. Similarly, the Serbian Securities Commission made it explicit that crypto-asset activities, even though not directly regulated, are not "free from regulatory burdens" and may fall under the scope of capital markets rules, among others.[67] In Republika Srpska, more regulatory guidance is expected with the new Law on Capital Markets, which will implement MIFID II and contain some provisions which will regulate investments in crypto-assets.

### 4. Forthcoming bespoke crypto-asset regulatory regime

**In two countries in the Western Balkans, Albania and Serbia, a bespoke crypto-asset regime is on the horizon.** In both countries, the Securities Commissions have led these initiatives. Albania has been the most active jurisdiction in this regard. The new law on Financial Market based on Distributed Ledger Technology (DLT) is currently under revision by the Parliament. The new law will be covering different activities and intermediaries in relation to crypto-assets. More specifically, regulated areas include: the approval of prospectuses, whitepapers, for Security Token Offerings and Initial Coin Offerings, as well as activities of DLT exchanges and custody wallet providers. The new law also defines investigation powers of the Albanian Financial Supervisory Authority, which will be allowed to enforce sanctions in case of market abuse. Similarly, the Serbian Securities Commission initiated a consultation process on regulation of crypto-assets in the Republic of Serbia on March 9, 2019. The main aim of such regulation is to bring more legal clarity in relation to crypto-assets which qualify as financial instruments. The focus of regulatory efforts in the consultation stage is to develop criteria for a distinction between security tokens and other types of tokens which do not fall under the powers of the Securities Commission. However, the regulation of other types of tokens is also envisaged, together with rules on AML/CTF. Given the scope of this initiative, it intends to create a bespoke regime for crypto-assets.

**In line with these developments, it is possible to recommend a number of best practices which have proven to be helpful in other jurisdictions.** The level of priority may vary across countries in the Western Balkan region.

## BOX 8. RECOMMENDATIONS FOR CRYPTO-ASSETS

1. Gather a database on the level of crypto-asset activity in national boundaries, in particular distinguishing between different activities, types of tokens and intermediaries. A close cooperation with national industry associations, if they exist, might facilitate this.
2. Issue clarifications on under which conditions regulated financial intermediaries are allowed to trade and hold crypto-assets.
3. Issue clarifications/guidelines on under which conditions crypto assets fall under current payments and securities laws, including AML laws. In particular, take into consideration the underlying economic purpose of tokens and distinguish between intermediaries and activities which are novel from those which resemble activities and intermediaries in traditional financial markets. With regards to AML regulations, take into account newest FATF VASP guidelines on virtual assets.
4. Consider regulating activities which fall outside the perimeter of existing regulations, based on the level of activity in the country, the risk they entail, and the institutional capacities for enforcing new rules.
5. Provide clarity over regulatory supervision, when competences and responsibilities of multiple national regulatory bodies are intertwined.
6. Formalise the cooperation among different regulatory bodies through consultation and working groups.

[67] Other laws that representatives of the Serbian Securities Commission mention as relevant are the AML/CFT Act, and Foreign Exchange Act.

# CHAPTER 6.

# REGULATORY RECOMMENDATIONS AND REGIONAL REGULATORY INTERVENTIONS

**Some indicative recommendations are made here in light of the challenges outlined in Chapter 2, 4 and 5 of this report, with a view to facilitating:**

1. Industry data collection and regulator capacity building
2. Increasing stakeholder engagement
3. Improving access to finance for MSMEs and consumers
4. Providing regulatory clarification for non-bank financial services firms
5. Reviewing existing regulatory frameworks to evaluate areas for potential innovation.
6. National and regional coordination between regulators on fintech.

**TABLE 14.** REGULATORY RECOMMENDATIONS

| | Recommendation | Potential Impact | Feasibility | Priority (Feasibility x Potential Impact) |
|---|---|---|---|---|
| **Priority Area 1: Increasing industry and stakeholder engagement to improve the coordination of regulatory developments.** | | | | |
| 1.1 | Evaluate the benefits and feasibility of establishing a contact point or innovation hub within each regulatory authority to address fintech-related queries relating to licensing and regulatory clarification. | High | Medium | High |
| 1.2 | Facilitate discussion fora, conferences or roundtables with relevant industry and consumer stakeholders to promote dialogue to help raise awareness of the opportunities for fintech. | Low | High | Medium |
| 1.3 | Establish a regulatory sandbox or innovation office within financial supervisors to allow fintechs to emerge in a regulatory testing environment. | Medium | Low | Low |
| **Priority Area 2: Facilitating industry data collection to increase transparency and build capacity.** | | | | |
| 2.1 | Western Balkans regulators from different authorities in each country could jointly participate in capacity building and training to build a common baseline of understanding with respect to Fintech and facilitate inter-jurisdictional communication and engagement in this domain. | High | Medium | High |
| 2.2 | Collect market data relating to the use of bank and non-bank financial services and key indicators of the fintech market developement to facilitate discussion and understanding between industry and regulators. | Low | High | Medium |
| **Priority Area 3: Improving access to finance for MSMEs and consumers.** | | | | |
| 3.1 | Consider engaging a development bank or creading a governmental seed fund administered by a private venture capital fund. Alternatively consider the feasibility of offering a partial credit guarantee for bank lending to start-ups and micro-enterprises, tied in with the development of the development finance strategy. | High | Medium | High |

| | Recommendation | Potential Impact | Feasibility | Priority (Feasibility x Potential Impact) |
|---|---|---|---|---|
| 3.2 | Assess the benefits of implementing a tax credit scheme, for example a research and development tax credit scheme, for fintech firms. | High | High | High |
| 3.3 | Develop, regulate and facilitate non-bank financial service organisations' access to credit bureau information relating to both companies and individuals. | High | Low | Medium |
| 3.4 | Revise the mechanisms and agreements by which reciprocal contribution is made by banks and other data providers to credit bureau databases with a view to improving data quality and accessibility, in line with global best practice. | High | Medium | High |
| 3.5 | Revise payment system regulations to ensure and facilitate the accessibility of payment systems to non-bank financial services providers. | High | Medium | High |
| **Priority Area 4: Providing regulatory clarification regarding the regulation of non-bank financial services firms.** | | | | |
| 4.1 | Publicise guidance notes regarding the regulatory remit of regulatory bodies in relation to non-bank financial activities, licensing, regulatory requirements, and outsourcing in relation to these. | High | Low | Medium |
| 4.2 | Identify areas of P2P lending, equity crowdfunding, digital payments and cryptoassets activities which are not covered by existing rules and at the same time pose risk to investors / consumers. | High | Low | Medium |
| **Priority Area 5: Strengthen and provide more clarity with respect to overarching regulatory frameworks.** | | | | |
| 5.1 | Open Banking and Open Finance regulations would increase the availability of financial data to regulated non-bank financial services providers, with a view to increasing competition and innovation in the market, and the development of new financial products and services. | Medium | Low | Low |
| 5.2 | Assess the licensing requirements that may present barriers to access to payment systems for non-bank financial organisations, with a view to facilitating such access. | High | Medium | High |
| 5.3 | Evaluate the benefits and feasibility of including the promotion of competition within the regulatory mandate of regulatory authorities. | Low | Medium | Low |

| | Recommendation | Potential Impact | Feasibility | Priority (Feasibility x Potential Impact) |
|---|---|---|---|---|
| 5.4 | Strengthen existing AML, consumer protection, data protection and privacy, and cybersecurity regulatory frameworks to account for risks stemming from fintech products. | Medium | Low | Low |
| 5.5 | Conduct further research to determine why there are not more e-money providers operating, despite the existence of licensing frameworks which permit this activity. | Medium | Medium | Medium |
| **Priority Area 6: Increasing the level of national, regional and international coordination between regulators to improve harmonisation and standardisation.** | | | | |
| 6.1 | Increase both informal and formal cooperation channels among different regulatory bodies through consultation agreements, joint capacity building activities and working groups for example | Medium | Medium | Medium |
| 6.2 | Evaluate the very challenging possibility of agreeing an inter-regional passporting scheme, in line with the EU's, to enable the reciprocal sharing of fintech-relevant operating licenses across borders to facilitate, for example, regional payments service or crowdfunding providers. | High | Low | Medium |
| 6.3 | Evaluate the very challenging possibility of creating a regional Regulatory Sandbox, to enable innovative fintech solutions to reach necessary economies of scale across borders. | Medium | Low | Low |

# APPENDIX 1.
# INTERVIEWEES

**TABLE 15.** INTERVIEWEES

| # | Last name | First Name | Position / Organization |
|---|---|---|---|
| 1 | Aliefendic | Ruvejda | World Bank Group |
| 2 | Alimi | Muhamed | MoneyGram |
| 3 | Andreeva | Natasa | National Bank of the Republic of North Macedonia |
| 4 | Babić | Marija | Belgrade Stock Exchange |
| 5 | Bevanda | Vjekoslav | Bosnia and Herzegovina |
| 6 | Bjedov | Marko | National Bank of Serbia |
| 7 | Blanchetete | Eric | EBRD |
| 8 | Bogov | Dimitar | EBRD |
| 9 | Bogunić | Faris | Banking Agency, Federation of Bosnia and Herzegovnia |
| 10 | Cahani | Mergim | Gjirafa, Inc. |
| 11 | Čaušević | Damir | Monri Payments |
| 12 | Cvetkovski | Božo | Central Bank of Montenegro |
| 13 | Deda | Andri | Union Bank Albania |
| 14 | Dimitrovski | Filip | TIGO Finance Macedonia |
| 15 | Dostanić | Miroslav | Sportizmo |
| 16 | Drašković | Predrag | Central Bank of Montenegro |
| 17 | Fazliu | Kastriot | Banka Ekonomike SH.A. |
| 18 | Gajić | Dušan | RealMarket |
| 19 | Gjata | Idlir | Albanian Financial Supervisory Authority |
| 20 | Gjika | Keler | World Bank |
| 21 | Hadžiefendić | Zinaida | Banking Agency, Federation of Bosnia and Herzegovnia |
| 22 | Jaeger | Johanna | World Bank |
| 23 | Jandrić | Miodrag | Republic of Srpska Securities Commission |
| 24 | Jaukovich | Vasilije | EBRD |
| 25 | Jega | Kapana | World Bank |
| 26 | Kaçani | Jonida | Bank of Albania |
| 27 | Khan | Isfandyar | World Bank Group |

| # | Last name | First Name | Position / Organization |
|---|---|---|---|
| 28 | Kodra | Kledi | Grant Thornton Albania |
| 29 | Koprena Talijan | Olivera | Banking Agency of the Republic of Srpska (BARS) |
| 30 | Korić | Mirela | Procredit Bank |
| 31 | Krco | Srdjan | DunavNET |
| 32 | Kukić | Zoja | Digital Serbia Initiative |
| 33 | Kumar | Pankajesh | CCAF |
| 34 | Kusari | Leonora | EBRD |
| 35 | Laco | Matija | World Bank |
| 36 | Lufi | Alban | Central Bank of the Republic of Kosovo |
| 37 | Mahmuzić | Jasmin | FBA, B&H |
| 38 | Malasi | Arben | Symmetric Group (OpenPay) |
| 39 | Marčić | Siniša | Ministry of Sceintific and Technological Development, Bosnia and Herzegovina |
| 40 | Marković | Miloš | Coinkernel |
| 41 | Matanović | Aleksandar | ECD |
| 42 | Mehmedbašić | Rizvan | Banking Agency, Bosnia and Herzegovina |
| 43 | Minaev | Maxim | Dagobah |
| 44 | Muftić | Dzenan | Monri Payments |
| 45 | Nešić | Vladan | Telekom Srbija |
| 46 | Nešić | Vladimir | Nielsen |
| 47 | Nježić Buzadžija | Danijela | Banking Agency of the Republic of Srpska (BARS) |
| 48 | Odorović | Lav | Penta |
| 49 | Oguz | Alper Ahmet | World Bank |
| 50 | Pedrazzi | Silvio | Intesa Sanpaolo Bank Albania |
| 51 | Pejkov | Vasko | Securities and Exchange Commission of the Republic of North Macedonia |
| 52 | Pejović | Luka | BDO Serbia |
| 53 | Radović | Ana Nives | Fintech Online Center |

| # | Last name | First Name | Position / Organization |
|---|---|---|---|
| 54 | Raić | Boris | Ministry of finance and treasury, BiH |
| 55 | Rajčević | Srdjan | Ministry of Finance of the Republic of Srpska |
| 56 | Ralević | Radoslav | EBRD |
| 57 | Randall | Douglas | World Bank |
| 58 | Rastoka | Rade | Banking Agency of the Republic of Srpska (BARS) |
| 59 | Ristić | Miroljub | Belgrade Stock Exchange |
| 60 | Romčević | Dušan | Securities Commission of the Republic of Serbia |
| 61 | Rudić | Snježana | Ministry of Finance of the Republic of Srpska, Assistant Minister for Financial Sector Department |
| 62 | Sadiku | Ermal | LinkPlus IT |
| 63 | Shkurta | Albana | DigitAlb |
| 64 | Shomo | Linda | EasyPay Albania |
| 65 | Stojanovska Arnaudova | Milica | National Bank of the Republic of North Macedonia |
| 66 | Strugar | Angelina | Central Bank of Montenegro |
| 67 | Surkov | Oleg | Digital Montenegro |
| 68 | Surovi | Dario | Easy Finance |
| 69 | Tanasoska | Marija | Palladium |
| 70 | Tanku | Altin | Bank of Albania |
| 71 | Theodhori | Violanda | Albanian Financial Supervisory Authority |
| 72 | Todorović | Anina | Securities Commission of the Republic of Serbia |
| 73 | Tomanović | Matija | MSS UK |
| 74 | Vlahović | Aleksandar | API Bank |
| 75 | Vujošević | Srdjan | Prva Banka Crne Gore Kosnovana |
| 76 | Wright | Robert | Raiffeisen Bank Kosovo |
| 77 | Žilić | Safija | Securities Commission of the Federation of Bosnia and Herzegovina |
| 78 | Zivić | Miša | LeanPay |
| 79 | Zylfo | Jorida | Pay & Go Albania |

# APPENDIX 2.

# FINTECH TAXONOMY

**TABLE 16.** FINTECH TAXONOMY

| Business Model | Sub-Category | Description |
|---|---|---|
| Capital Raising Crowdfunding | Equity Crowdfunding | Platform through which people finance or invest in private companies |
| | Donations Crowdfunding | Platforms through which donors provide financial resources to individuals, projects or companies that have philanthropic motivations without expecting a monetary return |
| | Rewards Crowdfunding | Platforms under which people contribute financial resources to individuals, projects or companies in exchange for products or monetary rewards |
| | Real Estate Crowdfunding | Platform through which people finance or acquire equity in real estate projects |
| AI/ML/Big Data Analytics | Alternative Credit Scoring | Alternative solutions to measuring people or companies' credit risks |
| | Customer Mktg/Data Analytics | Data analytics solutions for better targeting of customers and gain customer intelligence |
| | Customer Assistant / AI Chatbots | Chatbots based on AI/ML to provide assistance to customers |
| | Others | Other AI/ML/Big Data analytics solutions |
| Asset Management | Digital Wealth Management | Online platforms to supply and provide asset management services |
| | Social Trading | Platforms that provide investment advice through a social network |
| | Robo-Advisors | Asset management automated solutions based on algorithms or artificial intelligence |
| Trading and Capital Markets | FX Solutions | Foreign currency trading solutions for people and companies |
| | Stock Market Solutions & Exchanges | Stock and debt trade solutions and electronic exchanges |
| | Others | Other technological solutions to simplify or execute transactions between other types of assets |
| Personal Financial Management | Savings Solutions | Digital tools for consumers that simplify savings management and expenditure organization. Also, covers micro-savings solutions. |
| | Financial Comparison Sites | Online and mobile platforms comparing different financial products and their characteristics |
| | Others | Other technological solutions for personal financial management |

| Business Model | Sub-Category | Description |
|---|---|---|
| Enterprise Technology for Financial Institutions | Security and Digital ID / Biometrics | Personal verification and authentication solutions to access and authorize financial transactions |
| | KYC Solutions | Know your customer solutions regarding their financial services suppliers |
| | Fraud Prevention and Risk Management | Solutions focused on fraud prevention and operational risk management of financial institutions |
| | Core Banking Software | Software solutions for banking infrastructure |
| | RegTech Solutions for Regulatory Compliance | Solutions that make it more efficient and effective to manage with regulatory / compliance requirements |
| | Others | Other solutions for Financial Institutions |
| Enterprise Financial Management | Electronic Invoicing | Online platforms to issue and manage invoices |
| | Digital Accounting | Online platforms for accounting and tax calculation |
| | Financial Management and Business Intelligence | Online platforms for financial administration and business performance analytics generation |
| | Payment Collection | Digital solutions to simplify or manage the recovery of companies' account receivables |
| | Others | Other technological management solutions |
| InsurTech | Micro-Insurance | Solutions that provide micro-insurance and fractional insurance |
| | P2P Insurance | Platform that provides insurance based on other people/institutions investing in them |
| | Insurance Comparison | Comparison sites for comparing/selecting best insurance products |
| | Others | Other InsurTech solutions |
| Payments | Mobile Money / Wallet / P2P Transfers | Mobile solutions to transfer and manage money |
| | Remittances / International Money Transfers | Online and mobile solutions designed to send money to companies or people abroad |
| | Payment Gateways & Aggregators | Solutions to accept, authorise, and process payments on digital platforms |
| | Mobile Point of Sales (mPOS) & Point of Sales (POS) | Point of sale terminals for mobile phones and small businesses |
| | Others | Other technological solutions regarding digital payments |

# APPENDIX 3.

# FINTECH COMPANIES IN THE WESTERN BALKANS

## ALBANIA

- **Payments**
  1. MPay
  2. EasyPay
  3. Symmetric Group
  4. Pay & Go Albania
  5. MPay Albania
  6. OCG Albania Sh.p.k.
- **E-Commerce**
  7. GjirafaLab
- **E-signature**
  8. Blocknify
- **Accounting, RegTech**
  9. Agic Technology
- **E-ticketing**
  10. Tetra Solutions
- **Credit**
  11. AnaCredit

## BOSNIA AND HERZEGOVINA

- **Payments**
  12. Monri Payments
- **Customer analytics**
  13. Masterline d.o.o. Sarajevo
- **Insurtech**
  14. COFUS Asistencije
- **Digital identity**
  15. Infobip MENA
- **E-Commerce**
  16. Centralne Operacije
  17. Olivebh
- **Credit scoring**
  18. Info Studio

## KOSOVO

- **Comparison website**
  19. Trekandi
- **Crowdfunding**
  20. Kosovoideas.com
- **Cryptocurrency**
  21. Loycha
- **E-Commerce**
  22. Appbites

## NORTH MACEDONIA

- **Digital Identity**
  23. Digital Identity SA
- **Payments**
  24. MoneyGram
  25. Sybo Group
  26. M Cash
- **Credit**
  27. TIGO Finance Macedonia
  28. Iute Credit
  29. Easy finance

## MONTENEGRO

- **Cryptocurrency**
  30. Digital Montengro d.o.o.
- **Cryptocurrency**
  31. Coinmetro
- **Payments**
  32. Paneleven

## SERBIA

- **Payments**
  33. Yugonova
  34. LeanPay & Credit
  35. NCR Corporation
  36. Execom
  37. Manigo
  38. Chip Card A.D.
  39. iPay SEE
- **Middleware**
  40. Asecco SEE
  41. Adacta Beograd
  42. Maximus Fintech
  43. FIS Serbia
  44. P3 Group
  45. NCR Corporation
  46. TradeCore - Broker IQ
- **Crowdfunding**
  47. RealMarket
  48. Catalyst Balkans
  49. Brodoto
  50. Crowdfunding.rs
- **Cryptocurrency**
  51. Round Globe Technologies
  52. ECD
  53. Tradecore
  54. Ulticoin
  55. YourBTMs
- **Digital Identity**
  56. RSID-digital ID
  57. Telesign
- **InsurTech**
  58. Lambda Consulting
  59. Fintech M4 Pro
  60. Holycode (also multi)
- **Financial analytics**
  61. Nielsen
- **E-Commerce**
  62. Kuehne & Nagel
- **Mastercard Serbia**
  63. Mastercard
- **Gambling**
  64. Finbet
- **WealthTech**
  65. Synechron
- **Credit referencing**
  66. Cube Team
- **Trading**
  67. Funderbeam (also in North Macedonia)

# APPENDIX 4.

# MARKET CONCENTRATION OF THE BANKING SECTOR IN THE WESTERN BALKANS

**TABLE 17.** MARKET CONCENTRATION AS PER REGULATORS

| | Consumer lending | SME lending | Payments | Capital raising | Insurance |
|---|---|---|---|---|---|
| Bank of Albania | Low concentration, high competition | Moderate | Moderate | n/a | n/a |
| Albanian Financial Supervisory Authority | n/a | n/a | n/a | High | Moderate |
| Bank of Kosovo | High | Moderate | High | n/a | n/a |
| Banking Agency of FBiH | Moderate | Moderate | Moderate | n/a | n/a |
| Banking Agency of the Republic of Srpska | Moderate | Moderate | Moderate | Low | High |
| Securities Commission of FBiH | Moderate | Moderate | Moderate | Moderate | Moderate |
| Securities Commission of Republica Srpska | High | High | High | Low | Moderate |
| Central Bank of North Macedonia | High | Moderate | Moderate | Low | Moderate |
| Securities Commission of North Macedonia | n/a | n/a | n/a | Low | n/a |
| Central Bank of Serbia | Low concentration, high competition | Low concentration, high competition | Low concentration, high competition | n/a | Moderate (Herfinahl-Hirschman Index in 2018 was 1304) |

# APPENDIX 5.

# E-COMMERCE MARKET ACTIVITY IN THE WESTERN BALKANS

**E-commerce:** Sale of physical goods via a digital channel to a private end user (B2C), Purchases via desktop computer and mobile devices.

**TABLE 18.** ECOMMERCE MARKET ACTIVITY

| | Revenue (m) | Users | User penetration 2019 | User penetration by 2023 |
|---|---|---|---|---|
| Albania | $168 | 1.7 | 59.40% | 59.10% |
| Bosnia and Herzegovina[68] | $216 | 1.7 | 52.90% | 59.20% |
| Serbia | $2,354 | 5.8 | 66% | 82.60% |
| Montenegro | $67 | 0.4 | 64.20% | 65.20% |
| North Macedonia | $161 | 1.4 | 65.40% | 66.30% |
| Kosovo | : | : | : | : |
| Western Balkans | $2,966 | 11 | 61.58% | 66.48% |
| Bulgaria | $626m | 3.7m | 53.10% | 56.90% |
| Romania | $2,783m | 10.4m | 53.70% | 58.60% |
| Croatia | $489m | 2.8m | 66.90% | 71.20% |

[68] The number of applications refers to the aggregate number in Bosnia & Herzegovina, without being able to distinguish between those in different Entities. Jurisdiction over the financial sector in Bosnia & Herzegovina is at the Entity level, and the data provided in tables is aggregated based on the data on the financial sector of the Republic of Srpska and financial sector of the Federation of BiH.

# APPENDIX 6.

# REGULATORY OBJECTIVES IN REGARDS TO FINTECH

## FINANCIAL STABILITY[69]

Benefits of Fintech:

- **Improved risk assessment** through innovations in data science and new data sources.

Concerns about Fintech:

- **Insufficient regulatory capacity** in understanding new methods of pricing credit risk (eg. automated credit scoring), increased transaction volumes and the entry of large numbers of digital credit providers.
- **Operational risks from a transformed supply chain:** financial institutions are increasingly outsourcing operations to small third-party providers.
- **Cyber resilience** due to financial institutions' increased dependance on commonly outsourced services, such as cloud computing, possibly to other jurisdictions.[70]
- **Cryptoasset contagion:** the issue of interconnectedness between traditional finance and crypto asset activities and intermediaries.

## CONSUMER PROTECTION

Benefits of Fintech:

- **Improved transparency** through the leveraging of technology to offer conventional services in a more accessible and transparent manner. Some fintech firms specialise in offering a comprehensive price comparison of different financial intermediaries.[71]

Concerns about Fintech:

- **Opaque pricing:** unclear disclosures coupled with accessible interfaces can induce excessive borrowing among the most financially dependent parts of population.
- **Opaque consumer contracts** through the use of rolling online agreements or terms that state that each time a user uses a service they agree to new contract terms.
- **Lack of disclosures in relation to securities issuance:** equity crowdfunding and ICOs may circumvent IPO prospectus regulations. Hence, investors may not have necessary information to assess the risks and prospects of their investment.
- **Adverse selection** since P2P lenders may target those users in the underbanked population who would not qualify for bank credit. The lack of collateral, clear financial history, and stable cash flows, makes these sorts of investment particularly risky.
- **Herding:** Investors in equity crowdfunding and crypto assets are prone to herding. Herding implies that the market is unable to gather the information necessary to effectively price assets due to the fact that investors over-rely on investment decisions of earlier investors without making their own judgements.
- **Excessive borrowing:** some digital credit providers offer instantaneous access to credit, reducing the time needed to make a sound borrowing decision. This increases the risk of excessive borrowing among financially dependent consumers.
- **Partnerships and sub-licensing:** financial innovation often develops through the involvement of third-party fintech firms. The growing regulatory challenge is to ensure that these firms adhere to the same regulatory standards as licensed intermediaries, for instance to prevent unauthorised payments or ensure segregation of client assets.
- **Data protection** due to concerns about the security of personal information sent through digital channels at scale, the suitability of digital identification methods, and the threat of digital identity theft.

[69] For an overview of financial stability issues of different fintech models, see: Financial Stability Implications from FinTech, Financial Stability Board, 2017, https://www.fsb.org/wp-content/uploads/R270617.pdf.

[70] For an overview of recent cyber-security practises see: Cyber-resilience: Range of practices, Basel Committee on Banking Supervision, 2018, https://www.bis.org/bcbs/publ/d454.htm

[71] See: Report with advice for the European Commission on crypto-assets, EBA, 2019, https://eba.europa.eu/sites/default/documents/files/documents/10180/2545547/67493daa-85a8-4429-aa91-e9a5ed880684/EBA%20Report%20on%20crypto%20assets.pdf?retry=1.

## FIGHTING FINANCIAL CRIME (AML/CFT)[72]

Benefits of Fintech:

- Sophisticated customer identification methods such as the use of AI.

Concerns about Fintech:

- **Perimeter of regulated financial services:** While the rationale for extending AML regulations to fintechs is seldom disputable, the challenge lies in situations in which fintech activities do not fall under the perimeter of regulated financial institutions and products.
- **Customer identification:** the lack of 'brick and mortar' branches makes face-to-face KYC procedures prohibitively costly for digital fintechs. Allowing for appropriate online customer onboarding, which entails remote identification methods, such as video recognition and biometrics is, thus, crucial for enabling the growth of the sector. However, novel methods of KYC, if inappropriately applied can undermine AML safeguards.
- **AML proportionality:** Some AML regulations may be disproportionately burdensome for certain fintech business, in particular, those that do not hold clients' assets.

## MARKET COMPETITION, EFFICIENCY AND INNOVATION

Benefits of Fintech:

- **Fintechs impact the profit margins of incumbents.** This may increase competition and incentivise them to improve their products and services.

Concerns about Fintech:

- **Licensing requirements as a barrier:** Fintech firms often offer only one service within a banking value chain, especially in the domain of payments. Their business model may, nevertheless, require a full banking license in jurisdictions that do not recognise non-bank payment service providers. Similarly, P2P lending platforms usually do not take any financial risk on their balance sheet. However, regulators in different jurisdictions often require them to obtain a banking license.
- **Product regulation as a barrier:** Product regulation implies constraining the choice of contractual terms or products available for use by a financial service provider and its customers. This, in turn, limits the scope for innovative financial products and delivery channels inherent in fintech business.

[72] For the discussion on the impact of fintech on AML/CFT see: Report with advice for the European Commission on crypto-assets, EBA, 2019, https://eba.europa.eu/sites/default/documents/files/documents/10180/2545547/67493daa-85a8-4429-aa91-e9a5ed880684/EBA%20Report%20on%20crypto%20assets.pdf?retry=1.

# APPENDIX 7.

# REMIT, MANDATE, AND OBJECTIVES OF SELECTED REGIONAL REGULATORS

**TABLE 19.** REMIT, MANDATE, AND OBJECTIVES OF SELECTED REGIONAL REGULATORS

| Authority | Sector | Mandate | Statutory Objectives | | | |
|---|---|---|---|---|---|---|
| | | | Financial Stability | Investor/ Consumer Protection | AML/ CFT | Market competition efficiency and innovation |
| **Albania** | | | | | | |
| The Bank of Albania | Banking and payments | Promotion of financial system stability, public confidence in institutions, markets, and financial infrastructure - through regulating, licensing, and supervising banks and other financial institutions, as well as regularly identifying and analysing risks and threats to financial stability. | Y | Y | Y | N |
| The Albanian Financial Supervisory Authority (AFSA) | Insurance, securities, pension funds non-banking financial institutions, consumer protection | Regulation and supervision: of insurance market and its operators; of securities market and its operators; of voluntary pension funds market and its operators; of other non-banking financial activities. | Y | Y | Y | N |
| The Albanian Financial Intelligence Unit | AML/CTF | Combating money laundering activities | N | N | Y | N |
| The Office of Information and Data Protection | Data protection | Supervisory authority concerning the right to information, data protection and notification and public consultation | N | Y | N | N |
| **Kosovo** | | | | | | |
| The Central Bank of Republic of Kosovo | Banking, insurance, payments, microfinance, non-banking financial institutions | Promotion and maintenance of a sound financial system and efficient payment system | Y | Y | Y | Y |

| Authority | Sector | Mandate | Statutory Objectives | | | |
|---|---|---|---|---|---|---|
| | | | Financial Stability | Investor/ Consumer Protection | AML/ CFT | Market competition efficiency and innovation |
| National Agency for Personal Data Protection | Data protection | Acts as supervisory authority for data protection | N | Y | N | N |
| Kosovo Financial Intelligence Unit | AML/CTF | Combating money laundering and terrorism financing activities | N | N | Y | N |
| **Bosnia and Herzegovina** | | | | | | |
| The Central Bank of BiH | Payment and settlement systems | Maintaining monetary stability, supporting and maintaining appropriate payment and settlement systems and coordinating the activities of the BH Entity Banking Agencies which are in charge of bank licensing and supervision. | N | N | N | N |
| Banking Agency of the FBiH (FBA) | Banking, microcredit and leasing | Issuance of licenses and supervision of banks, micro-credit organizations and leasing companies; issuance of licenses for conducting internal payment system. | Y | Y | Y | N |
| Banking Agency of the Republika Srpska | Banking, microcredit and other credit institutions | Issuance of licenses and supervision of banks, micro-credit organizations and leasing companies; issuance of licenses for conducting internal payment system. | Y | Y | Y | N |
| The Republic of Srpska Securities Commission | Capital market | Passing regulations on the Republika Srpska securities market operation; issuing licenses and supervising investment funds and investment fund management companies and other authorized participants in the securities market. | Y | Y | N | N |

| Authority | Sector | Mandate | Statutory Objectives | | | |
|---|---|---|---|---|---|---|
| | | | Financial Stability | Investor/ Consumer Protection | AML/ CFT | Market competition efficiency and innovation |
| Securities Commission of the Federation of Bosnia and Herzegovina | Capital market | Regulation and supervision of securities issuances, securities trading, securities trading participants, standards of corporate governance, investor protection, control of operations of the stock exchange, operating a registry of Registry in relation to capital markets. | Y | Y | N | N |
| Insurance Agency in Bosnia and Herzegovina | Insurance | Uniform implementation of the insurance laws between the entities in BiH, as well as cooperation between the Insurance Supervisory Agencies of the FBiH and the Republic of Srpska | N | N | N | N |
| Insurance Supervisory Agency of the FBiH | Insurance | Regulation and supervision of operations of the insurance companies and insurance intermediaries, acting in the capacity of a supervisory institution in the insurance industry. | Y | Y | N | N |
| Insurance Agency of Republika Srpska | Insurance | Regulatory and supervisory function in the aim of protecting entities that have the right to insurance coverage and compensation; as well as the benefit of the insurance industry. | Y | Y | N | N |
| Financial Intelligence Department (FID) | AML/CTF | Combating money laundering and terrorism financing activities | N | N | Y | N |
| Personal Data Protection Agency | Data protection | Regulation and supervision of data protection | N | Y | N | N |

| Authority | Sector | Mandate | Statutory Objectives | | | |
|---|---|---|---|---|---|---|
| | | | Financial Stability | Investor/ Consumer Protection | AML/ CFT | Market competition efficiency and innovation |
| **North Macedonia** | | | | | | |
| The National Bank of the Republic of North Macedonia | Banking, e-money, payments, and other financial institutions and over the counter markets, AML | Establishing, regulating and overseeing efficient payment, settlement and clearing systems; regulating, licensing, and supervising banks, savings houses, e-money issuers and other financial institutions; supervising the application of regulations that govern foreign currency operations, currency exchange operations, money transfer services and anti-money laundering systems, and customer protection. | Y | Y | Y | ? |
| Securities and Exchange Commission | Capital market | Protection of the investors, creating and maintaining fair, safe, transparent and efficient securities market and facilitating raising capital, thus contributing to the country's economic growth and development. | Y | Y | N | Y |
| The Insurance Supervision Agency (ISA) | Insurance | Promoting fair and efficient functioning of the insurance market with the objective of protection of the rights of the insurance policyholders and beneficiaries. | Y | Y | N | ? |
| The Directorate for Personal Data Protection (DPA) | Data protection | Supervision of lawfulness of actions taken during the processing of personal data and their protection in the country | N | Y | N | N |
| Financial Intelligence Unit | AML/CTF | Combating money laundering and terrorism financing activities | N | N | Y | N |

| Authority | Sector | Mandate | Statutory Objectives | | | |
|---|---|---|---|---|---|---|
| | | | Financial Stability | Investor/ Consumer Protection | AML/ CFT | Market competition efficiency and innovation |
| **Montenegro** | | | | | | |
| The Central Bank of Montenegro | Credit institutions (including microfinance), financial services' providers, payment services' providers, e-money issuers and payment systems. | Regulation and supervision of credit institutions, financial services' providers, payment service providers and e-money; regulates and carries out payment system operations; protecting rights and interests of consumer loan beneficiaries, users of payment services, and e-money holders. | Y | Y | N | N |
| Insurance Supervision Agency | Insurance | Supervision of companies, subsidiaries of foreign insurance companies, insurance brokerage companies, insurance agencies, entrepreneurs-insurance agents, agencies for provisions of ancillary insurance services and other companies. | Y | Y | N | N |
| Securities Commission | Capital markets | Ensuring fair, efficient and transparent operation of capital market, with the aim of protecting investors and controlling systematic risk; regulation and supervision of securities market, education of capital market participants, education of the public about trends and developments of capital market; development of internal capacities of the Securities Commission. | Y | Y | N | N |

| Authority | Sector | Mandate | Statutory Objectives | | | |
|---|---|---|---|---|---|---|
| | | | Financial Stability | Investor/ Consumer Protection | AML/ CFT | Market competition efficiency and innovation |
| Administration for Prevention of Money Laundering and Terrorist Financing | AML/CTF | Combating money laundering and terrorism financing activities | N | N | Y | N |
| Agency for Personal Data Protection and Free Access to Information | Data protection | Regulating and supervising obligations of public authorities in relation to access to Information of Public Importance; supervising the enforcement of data protection | N | Y | N | N |
| **Serbia** | | | | | | |
| National Bank of Serbia (NBS) | Banking, insurance, payments, e-money, fund management (pension funds), protection of consumers with respect to financial services | Regulating and controlling performance of domestic and cross-border payment transactions; supervising and licensing of bank operations, insurance business, voluntary pension fund management companies, payment institutions, electronic money institutions, payment system operators; protection of rights and interests of the consumers of services provided by banks, financial leasing providers, insurance companies, voluntary pension fund management companies, payment service providers and electronic money issuers. | Y | Y | Y | N |
| The Securities Commission | Capital market | Safeguarding orderly functioning of the capital market, enhancing investor protection and ensuring integrity, efficiency and transparency of the market; enforcing AML/CTF with respect to custody and broker-dealer activities. | Y | Y | Y | N |

| Authority | Sector | Mandate | Statutory Objectives | | | |
|---|---|---|---|---|---|---|
| | | | Financial Stability | Investor/ Consumer Protection | AML/ CFT | Market competition efficiency and innovation |
| Commissioner for Information of Public Importance and Personal Data protection | Data protection | Regulating and supervising obligations of public authorities in relation to access to Information of Public Importance; supervising the enforcement of data protection including transborder transfer of data from the Republic of Serbia. | N | Y | N | N |

# APPENDIX 8.

# SUMMARY OF REGIONAL AND INTERNATIONAL COOPERATION EXAMPLES IN THE WESTERN BALKANS

**TABLE 20.** COOPERATION EXAMPLES IN THE WESTERN BALKANS

| | |
|---|---|
| **Examples of banking-related multilateral cooperation beyond fintech include** | |
| Memorandum of cooperation with the European Banking Authority (EBA) | Banking Agency of the Federation of Bosnia and Herzegovina, the Banking Agency of the Republic of Srpska, the National Bank of the Republic of Macedonia; the Central Bank of Montenegro, the National Bank of Serbia and the Bank of Albania |
| MOU on high-level principles of co-operation and coordination among the banking supervisors of South Eastern Europe. | The Bank of Albania, the Banking Agency of the Republic of Srpska, the Bank of Greece, the Bulgarian National Bank, the Central Bank of Cyprus, the National Bank of the Republic of Macedonia, the National Bank of Romania, and the NBS. |
| Group of Banking Supervisors from Central and Eastern Europe (BSCEE Group) | Albania, Austria, Belarus, Federation of Bosnia and Herzegovina, Republika Srpska, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Macedonia, Moldova, Montenegro, Poland, Romania, Russia, Serbia, Slovak Republic, Slovenia, Ukraine |
| **Examples of banking-related bilateral cooperation beyond fintech** | |
| Memorandum of Understanding between the SSM-ECB and the Bank of Albania | ECB, Albania |
| Memorandum of understanding between the Banking Agency of Republika Srpska | Serbia, Croatia, Slovenia, Montenegro, Austria, Germany, Russia, Slovenia, Turkey, EBA and ECB. |
| Memorandum of understanding between the Banking Agency of FBiH | Slovenia, Croatia, Macedonia, Serbia, MonteNegro, Turkey, Austria, Germany (BaFin), ECB, EBA |
| **Examples of capital market-related multilateral cooperation beyond fintech** | |
| IOSCO (Multilateral Memorandum of Understanding IOSCO MMoU) | |
| **Examples of capital market-related bilateral cooperation beyond fintech** | |
| Memorandum of Understanding between Securities Commission of Republika Srpska & ESMA | ESMA concerning exchange of information concerning the supervision of alternative funds. |
| **Fintech-specific cooperation** | |
| Cooperation between Serbian Securities Commission and regulators from Malta on crypto-assets regulation. | Malta, Serbia |
| Cooperation between Innovation Office of the Central Bank in North Macedonia and Dutch and Belgian Central Banks. | North Macedonia, Netherland, Belgium |

# APPENDIX 9.

# REMIT OF REGULATORS AND LICENSING REQUIREMENTS

**TABLE 21.** DIGITAL PAYMENTS / E-MONEY[73]

| Albania | Kosovo | FBiH | Republika Srpska | North Macedonia | Montenegro | Serbia |
|---|---|---|---|---|---|---|
| **Permitted/ Prohibited/ Unclear** | | | | | | |
| Permitted | Permitted | Unclear* | Prohibited | Permitted | Permitted | Permitted |
| **Unregulated/ Regulated/ Unclear** | | | | | | |
| Regulated | Regulated | Unregulated | Unregulated | Regulated | Regulated | Regulated |
| **Remit of the Central Bank/Banking Agency** | | | | | | |
| Yes | Yes | Unclear* | Unclear* | Yes | Yes | Yes |
| **Licensing** | | | | | | |
| Payment Institution License - No<br>E-money license - Yes | Payment Institution License - Yes<br>E-money license - Yes | Payment Institution License – No<br>E-money license – No | Payment Institution License – No<br>E-money license - No | Payment Institution License – No<br>E-money license – Yes | Payment Institution License - Yes<br>E-money license - Yes | Payment Institution License - Yes<br>E-money license - Yes |
| **Harmonised with PSD (1 and 2)** | | | | | | |
| PSD 1 - Yes<br>PSD 2 – No<br>Expected: 2020 | PSD 1 - Yes<br>PSD 2 – No<br>Expected: 2020-2022 | PSD 1 - Yes partially<br>PSD 2 – No<br>Expected: n.a. | PSD 1 - Yes partially<br>PSD 2 – No<br>Expected: n.a. | PSD1 - No<br>PSD 2 – No<br>Expected: 2020 | PSD 1 - Yes<br>PSD 2 – No<br>Expected: 2020 | PSD 1 - Yes<br>PSD 2 – No<br>Expected: n.a. |
| **Harmonised with E-money Directives** | | | | | | |
| Yes, partially.<br>Further harmonization expected: n.a. | Yes partially.<br>Further harmonization expected: 2020 | No<br>Expected: n.a. | No<br>Expected: n.a. | Yes partially.<br>Further harmonization expected: 2020 | Yes | Yes |
| **Number of licensed non -bank PI** | | | | | | |
| 3 | n.a. | No | No | No, except for micropayment intermediaries | 3 | 13 |
| **Number of E-money institutions (including potential entrants)** | | | | | | |
| 2 + 1 potential entrant | / | No<br>6 inquiries from industry | No | No | 1 | 8 |

**Note:** * denotes that the competent regulator left the field blank.

[73] Source: The table is based on self-reported regulatory requirements by competent regulators and complemented by desk-based research.

**TABLE 22.** DIGITAL MICROFINANCE

| Albania | Kosovo | FBiH | Republika Srpska | North Macedonia | Montenegro | Serbia |
|---|---|---|---|---|---|---|
| **Permitted and regulated** | | | | | | |
| Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| **Supervisory Authority** | | | | | | |
| The Bank of Albania | The Central Bank of the Republic of Kosovo | Federal Banking Agency | Banking Agency of Republika Srpska | Ministry of Finance | The Central Bank of Montenegro | The National Bank of Serbia |
| **# of licensed MFIs** | | | | | | |
| 5[74] | 10[75] | 13 | 14 MCO with HQ in the Republic of Srpska, and organizational parts of 8 MCO with HQ in the Federation of BiH. | 4[76] | 7 | 1 |
| **Key legislations and regulations** | | | | | | |
| Regulation 1/2013 "On the granting of license to non-bank financial institutions"<br>Regulation 104/2016 "On licensing and activity of savings and loan associations and their Unions" | Law on Banks, Microfinance Institutions and Non-Bank Financial Institutions<br>Law on Freedom of Association in Non-governmental Organisations<br>Regulations from the Central Bank of the Republic of Kosovo[77] | Law on Microcredit Organisations | Law on Microcredit Organizations | The Banking Law<br>Law on associations and foundations | Law on Financial Leasing, Factoring, Purchase of Receivables, Micro-Lending, Credit-Guarantee | n.a. |

[74] The Bank of Albania did not provide information on the number of microfinance institutions, most likely due to the fact they fall under the perimeter of non-banks financial institutions or Savings and Loans Association. The number of microfinance institutions is reported based on the membership in the Albanian Microfinance Association: http://ama.com.al/.
[75] The number of microfinance institutions was reported by the Central Bank of the Republic of Kosovo.
[76] The Central Bank of North Macedonia did not provide information on the number of microfinance institutions. The number of microfinance institutions is reported based on the membership in the Association of Microfinance Organizations (MFO): http://mfo.mk/eng/index.php/en/our-services-layout1#members
[77] The Central Bank of the Republic of Kosovo adopted several regulations applicable to microfinance institutions. See: http://amik.org/en/Topics/Laws-and-Regulations-for-MFIs

**TABLE 23.** P2P LENDING[78]

| Albania | Kosovo | FBiH | Republika Srpska | North Macedonia | Montenegro | Serbia |
|---|---|---|---|---|---|---|
| **Permitted/ Prohibited/ Unclear** | | | | | | |
| Unclear | Prohibited | Unclear* | Prohibited | Permitted | Unclear* | Unclear |
| **Unregulated/ Regulated/ Unclear** | | | | | | |
| Unregulated | Unregulated | Regulated | Unregulated | Unregulated | Unregulated | Regulated |
| **Remit of the Central Bank/Banking Agency** | | | | | | |
| No | No | Unclear* | Yes | Unclear* | Unclear* | Yes |
| **Remit of the Securities Regulator** | | | | | | |
| Yes | / | No | Unclear* | No | Unclear** | No |
| **Licensing/ Authorisation** | | | | | | |
| No | Unclear | No | Unclear | No | Unclear** | No |
| **Number of firms that applied to regulators (including potential)** | | | | | | |
| / | / | / | / | 1 | / | 1 (P2P Consumer Lending) |

**Note:** * denotes that the regulator did not make it explicit that an activity in question or regulatory powers were unclear but instead left the field blank. ** denotes that definite answer cannot be provided due to lack of participation of the Securities Commission in Montenegro.

[78] Source: The table is based on self-reported regulatory requirements and remit by competent regulators.

**TABLE 24.** EQUITY-BASED CROWDFUNDING[79]

| Albania | Kosovo | FBiH | Republika Srpska | North Macedonia | Montenegro | Serbia |
|---|---|---|---|---|---|---|
| **Permitted/ Prohibited/ Unclear** | | | | | | |
| Unclear | Prohibited | Unclear* | Unclear | Permitted / Unclear | Unclear* | Unclear / Permitted |
| **Unregulated/ Regulated/ Unclear** | | | | | | |
| Unregulated | Unregulated | Regulated | Unregulated | Unregulated | Unregulated | Unregulated |
| **Remit of the Central Bank/Banking Agency** | | | | | | |
| No | No | Unclear* | Unclear* | Unclear* | Unclear* | With regard to cross-border payments |
| **Remit of the Securities Regulator** | | | | | | |
| Yes | / | Yes | Unclear | Yes | Unclear** | Unclear* |
| **Licensing/ Authorisation** | | | | | | |
| No | No | Unclear | Yes | No | Unclear** | No |
| **# of firms that applied to regulators (including potential)** | | | | | | |
| / | / | / | / | 1 active | / | 2 (No entrants yet) |

**Note:** * denotes that the regulator did not make it explicit that an activity in question or regulatory powers were unclear but instead left the field blank. ** denotes that definite answer cannot be provided due to lack of participation of the Securities Commission in Montenegro.

[79] Source: The table is based on self-reported regulatory requirements and remit by competent regulators.

**TABLE 25.** CRYPTO-ASSETS/ICOS[80]

| Albania | Kosovo | FBiH | Republika Srpska | North Macedonia | Montenegro | Serbia |
|---|---|---|---|---|---|---|
| **Permitted/ Prohibited/ Unclear** | | | | | | |
| Unclear (New law is in the legislative procedure) | Prohibited | Unclear* | Unclear | Unclear | Unclear* | Permitted |
| **Unregulated/ Regulated/ Unclear** | | | | | | |
| Unregulated (New law is in the legislative procedure) | Unregulated | Unregulated | Unregulated | Unregulated | Unregulated | Partially regulated (AML/CFT supervision) |
| **Remit of the Central Bank/Banking Agency** | | | | | | |
| No | No | No | Unclear* | Unclear* | Yes (viz AML/ CFT regulations) | Yes |
| **Remit of the Securities Regulator** | | | | | | |
| Yes | / | Unclear* | Unclear* | Securities Commission | Unclear** | Yes |
| **Remit of Another Designated Regulator** | | | | | | |
| | | Federal Ministry of Finance | | | | |
| **Licensing** | | | | | | |
| Not applicable yet | Not applicable yet | Not applicable yet | Not applicable yet | Not applicable yet | Viz. AML/CFT regulations (issuance/ exchange) | Not applicable yet |
| **Number of firms that applied to regulators (including potential market entrants)** | | | | | | |
| / | / | / | 5 | / | / | 10 |

**Note:** * denotes that the regulator did not make it explicit that an activity in question or regulatory powers were unclear but instead left the field blank. ** denotes that definite answer cannot be provided due to lack of participation of the Securities Commission in Montenegro.

[80] Source: The table is based on self-reported regulatory requirements and remit by competent regulators.